

FINAL
ENVIRONMENTAL ASSESSMENT
MILCON FITNESS CENTER AND FITNESS TRAINING AREA
EGLIN AIR FORCE BASE, FLORIDA

RCS 07-812



Prepared for:

96th Civil Engineer Group
Environmental Management Division
96 CEG/CEV
Eglin Air Force Base, Florida 32542

June 2010

Report Documentation Page			Form Approved OMB No. 0704-0188		
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1. REPORT DATE 06 JUL 2010		2. REPORT TYPE Environmental Assessment		3. DATES COVERED 00-00-2007 to 00-00-2010	
4. TITLE AND SUBTITLE Final Environmental Assessment for MILCON Fitness Center and Fitness Training Area, Eglin Air Force Base, Florida			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Air Force,Eglin Air Force Base,Okaloosa,FL,32542			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Final Environmental Assessment for MILCON Fitness Center and Fitness Training Area, Eglin Air Force Base, Florida					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 199	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

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PRINTED ON RECYCLED PAPER

July 12, 2010

Mr. Terry Perkins
96 CEG/CEVSP
501 DeLeon Street Suite 101
Eglin AFB, FL 32542-5133

RE: Final
Environmental Assessment (EA)
MILCON Fitness Center and Fitness Training Area (RCS 07-812)
Eglin Air Force Base, Florida

Brown, Burdine & Associates, LLC (BBA) is pleased to submit the Final Environmental Assessment (EA) and Final signed Findings of No Significant Impact (FONSI) for the MILCON Fitness Center and Fitness Training Area on Eglin Air Force Base, Okaloosa County, Florida.

We appreciate the opportunity to work with the U.S. Air Force and the USACE-Omaha District on this project. If you have any questions or need further assistance, please do not hesitate to contact me at (850) 243-0072.

Respectfully,

Brown, Burdine & Associates, LLC



Richard L. Burdine, PG
Vice President

Attachments

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FINDING OF NO SIGNIFICANT IMPACT
MILCON FITNESS CENTER AND FITNESS TRAINING AREA
EGLIN AIR FORCE BASE, FLORIDA

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] 1500-1508), Department of Defense Directive 6050.1 and Air Force Regulation 32 CFR Part 989, the U.S. Air Force (USAF), 96th Air Base Wing, Eglin Air Force Base (AFB), and Air Force Materiel Command, have conducted an Environmental Assessment (EA) to identify potential effects associated with the construction of Fitness Center and Fitness Training Area, combined with the demolition of four existing, outdated fitness facilities.

Purpose and Need for the Proposed Action:

The purpose of the Proposed Action is to create a properly sized and functionally configured facility to offer personnel an area to pursue proper physical fitness needs on Eglin AFB. Consolidation of four existing facilities would maximize use of management and staff to provide 24-hour operation.

The need for the Proposed Action was identified according to assessment criteria in the Eglin FY12 *Fitness Center Requirements Document*. The existing facilities are categorized as “substandard.” Contributing to this designation is failing infrastructure at the main gym, mold and mildew problems in several areas, outdated bathrooms, excess wear and tear, and insurmountable space constraints.

Under the current conditions, fitness and conditioning of the troops would decline as people avoid using the facilities due to poor condition and overcrowding. Furthermore, training and testing capacity, recreational programs, and team and individual sports would remain limited due to space constraints. These conditions reduce individuals’ mission readiness and also detract from the Air Force’s ability to attract highly trained and qualified personnel.

Proposed Action:

The Proposed Action includes the construction of a Mega 7 category fitness facility of 128,236 square feet to accommodate the current base population of approximately 12,219 personnel. The new facility would also provide approximately 20-acres for an outdoor Fitness Training Area. Consolidation of the facilities would combine management and staffing to allow for more economical management and extended hours of operation. The new facility would be designed to meet current building, environmental, mechanical, fire, electrical, antiterrorism force protection, and Americans with Disabilities Act codes and standards. Demolition of the existing facilities (Buildings 719, 720, 810 and 843) is included as a component of the Proposed Action.

Alternatives:

Alternatives were also analyzed during the environmental impact analysis process. Alternatives considered consisted of utilizing different locations on Eglin main base and an alternative configuration in the East Gate athletic complex. Under the No-Action Alternative, no construction, land clearing, or demolition would occur. Based on the objectives established for the Proposed Action, only the Proposed Action and the No-Action Alternative were carried forward for evaluation. The EA process identified the Proposed Action as the Preferred Alternative.

Environmental Consequences:

The environmental consequences associated with implementation of the Proposed Action are summarized in the following sections.

Air Quality: Short-term impacts will occur during demolition of the existing facilities, land clearing, and construction of the Proposed Action. Air quality impacts would include particulate matter and fugitive dust from grading activities and construction vehicle emissions. Best management practices (BMPs) would be used to reduce fugitive dust emissions, such as daily watering of the disturbed ground and replacement of ground cover in disturbed areas. No mitigation for operational effects is necessary.

The Proposed Action would contribute directly to emissions of greenhouse gases from the combustion of fossil fuels from construction equipment and commuter vehicles.

However, the Proposed Action would have a negligible contribution towards statewide greenhouse gas inventories.

Biological Resources: The Proposed Action will require approximately 35-acres of wooded habitat along the edge of previously developed areas to be cleared for the construction of the Fitness Center and Fitness Training Area. There are no documented instances of any protected species associated with the site. However, a gopher tortoise survey will be conducted prior to construction activities, signs will be posted to alert workers to the potential presence of eastern indigo snake, and work crews will be familiarized with the appearance of potential protected species associated with the site. BMPs including silt fencing, sand bags, sediment traps, sediment basins, and synthetic bales will be implemented, as needed. Preventative and mitigation measures will help ensure impacts from site clearing will be insignificant.

Coastal Zone Management: In accordance with the Federal Coastal Zone Management Act and the Florida Coastal Zone Management Act, a Consistency Determination was made, finding that the activities under the Proposed Action are consistent with the Florida Coastal Management Program. In accordance with Florida statutes, the State of Florida has reviewed the attached Environmental Assessment and agrees that the Proposed Action is consistent with the Florida Coastal Management Program (pending).

Geological Resources: Under the Proposed Action, activities such as grading, excavating, and re-contouring of the soils and shallow geologic sediments, would result in some minor disturbance. However, during construction, erosion and sediment disturbances resulting from normal construction activities will be managed through the implementation of BMPs (e.g., silt fencing, sediment traps, application of water sprays, and revegetation of disturbed areas).

Hazardous Materials, Hazardous Waste, Solid Waste: The additional fuel storage tank associated with the additional generator represents an insignificant change in fuel storage and fuel management requirements and represents an insignificant short- and long-term impact on established management policies, procedures, and handling capacities for stored fuel at Eglin AFB.

Due to the age of the buildings to be demolished, asbestos and lead-based paint are potential concerns. Procedures for identifying and managing disposal of these materials are outlined in EAFB Plan 32-3, *Asbestos Management Plan* and Eglin AFB Plan 32-4, *Lead-Based Paint Management Plan*. The amount of Hazardous Wastes associated with the Proposed Action is expected to be small and would represent a negligible short-term adverse impact on hazardous waste at Eglin AFB.

Clearing and grubbing activities for the Fitness Center and Fitness Training Area would result in an estimated 1,750 to 3,150 tons of land clearing debris. It is expected that a reasonable effort would be made to market and utilize all wood by-products for lumber, fuel, or chips, and that BMPs would be utilized to minimize and manage landfill disposal. Optimal management and utilization would result in no landfill deposits of the land clearing debris and thus no impact on solid waste.

Demolition activities for the existing fitness facilities would result in an estimated 5,287 tons of C&D debris including: concrete rubble, masonry, miscellaneous metal debris, drywall, ceramic plumbing fixtures, and wood products. It is assumed that BMPs would be utilized to reduce and manage the generated waste stream, including recycling when possible. The estimated tonnage of C&D debris can be accommodated at any of the Okaloosa County C&D landfills, and thus the C&D debris represents an insignificant long-term impact on solid waste.

Noise: Implementation of the Proposed Action would have a short-term minor adverse impact on the noise environment due to the use of heavy equipment during construction activities. Once construction activities cease noise levels would return to baseline conditions and no long-term effects would be expected.

Safety: Short-term, minor adverse effects would be expected from the Preferred Alternative during construction activities. Implementation of construction activities would slightly increase the short-term risks associated with demolition, land clearing, and construction. Contractors are responsible for implementing and enforcing safety programs, and applicable Air Force and Occupational Safety and Health Administration regulations. Once construction activities cease, safety conditions would return to baseline levels and no long-term effects would be expected.

Transportation: Construction of the Proposed Action would generate additional vehicle trips in and around the Proposed Action by vehicles transporting workers, material, and equipment to the construction site. Measures such as timing construction work-shifts so that the arrivals and departures of work crews avoid peak-hours would help lessen effects at the gates and on the major arterials that service the area. Once construction of the Proposed Action is complete, traffic generated by the new facilities will primarily utilize the same roadways supporting the existing facilities.

The new facility would likely encourage increased utilization by additional personnel. Based on the 24-hour availability of the new facility, it is expected that arrivals and departures of any additional personnel would generally avoid peak-hours. It is expected that additional loading of local roadways would contribute to the area's existing traffic congestion but would be a long-term insignificant adverse impact.

Water Resources: Due to the surficial nature of the Proposed Action no effects on the Floridan Aquifer are expected during construction, demolition, or land clearing activities. Demolition, land clearing, and construction may have the potential to affect drainage basins, floodplain, wetlands, surface water, and the Sand & Gravel Aquifer and continued use of the proposed Fitness Facility will require on-going usage of potable water obtained from the Floridan Aquifer.

Construction of the Fitness Center would add an estimated 128,236 square feet and required parking would add 27,090 square feet or a total of 3.56 acres of impervious surface, all within Watershed Number 14. Demolition of Buildings 719, 720, 810, and 843 represents a 65,000 square foot reduction of impervious surface, from Eglin AFB Watershed Number 12 for net increase of 90,326 square feet (2.07 acres) of impervious surface between the two watersheds.

During construction, demolition, and land clearing activities associated with the Proposed Action, erosion and sediment control BMPs in accordance with applicable permits will be implemented to minimize impact to the drainage basins, floodplain, wetlands, surface water, and the Sand & Gravel Aquifer. In accordance with United Facilities Criteria (UFC) 3-210-1 *Low Impact Development* (LID), specific stormwater management practices would be incorporated into building and site design and landscape

plans to help reduce the rate of runoff, reduce water pollution, and increase localized ground water recharge by emulating natural drainage patterns and hydrology.

In accordance with the Environmental Resource Permit program, a storm water management system designed in accordance with the NFWMD guidelines to retain and treat a portion of the rainfall received at the site will be implemented as part of the Proposed Action. Increased volume, if any, of storm water diverted to Weekley Bayou would depend on the final approved storm water system design, and the distance and condition of land over which the water travels, after it is released from the storm water management system. As such, the Proposed Action will result in no short-term impacts and insignificant long-term impacts on surface waters.

Due to mandated use of water efficient appliances, faucets, toilets, and showerheads it is not anticipated the Proposed Action would have a significant effect on the current withdrawal rate from the Floridan Aquifer.

Direct, Indirect and Cumulative Impacts: No significant cumulative impacts are projected to occur based on the Proposed Action and other reasonably foreseeable projects on Eglin main base or adjacent neighborhoods in Valparaiso.

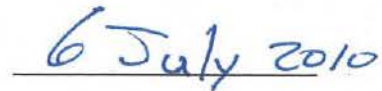
Interagency and Intergovernmental Coordination and Public Review: A public notice of availability was published in the *Northwest Florida Daily News and the Bay Beacon* on April 14, 2010 inviting the public to review the Draft Environmental Assessment and Draft Finding of No Significant Impact, beginning the 15-day comment period. Concurrently, the Draft Environmental Assessment was submitted to the Florida State Clearinghouse, USFWS and the USACE for 60-day agency review. Comments received from the Florida State Clearinghouse are provided in Appendix B. No public comments were received.

Finding of No Significant Impact: Based on my review of the facts and analyses contained in the attached MILCON Fitness Center and Fitness Training Area EA, I conclude that the implementation of the Proposed Action will not have a significant environmental impact, either by itself or cumulatively with other projects on Eglin main base or the adjacent neighborhoods in Valparaiso. Accordingly, the requirements of National Environmental Policy Act, the regulations promulgated by the Council on

base or the adjacent neighborhoods in Valparaiso. Accordingly, the requirements of National Environmental Policy Act, the regulations promulgated by the Council on Environmental Quality and the Air Force are fulfilled and an Environmental Impact Statement is not required.



DAVID H. MAHARREY, JR., Col, USAF
Commander, 96th Civil Engineer Group



Date

COVER SHEET

ENVIRONMENTAL ASSESSMENT MILCON FITNESS CENTER AND FITNESS TRAINING AREA Eglin Air Force Base, Florida

Responsible Agencies: U.S. Air Force (USAF), 96th Air Base Wing, Eglin Air Force Base (AFB), and Air Force Materiel Command.

Affected Location: Eglin AFB, Okaloosa County, Florida.

Report Designation: Draft Environmental Assessment (EA).

Abstract: Eglin AFB proposes to construct a new Fitness Training Center and Training Area. The new center would be a consolidated state-of-the-art facility designed to meet current building, environmental, mechanical, fire, electrical, safety, sustainable development, antiterrorism force protection, and Americans with Disabilities Act concepts, codes, and standards. The Fitness Training Area would provide adequate outdoor space for team sports and personal training. The Proposed Action is needed to consolidate health training facilities from four separate and outdated facilities into one updated consolidated facility. Consolidation of the fitness center would facilitate staffing and management.

This Draft EA evaluates the potential environmental consequences of the Proposed Action and the No-Action Alternative, on the following nine general resource areas: air quality; biological resources; coastal zone management; geological resources; hazardous materials, hazardous waste and solid waste; noise, safety; transportation; and water resources.

Written comments and inquiries regarding this document should be sent to:

Mr. Michael Spaits, 96 CEG/CEVSP, 501 De Leon, Suite 101, Eglin AFB, Florida 32542-5133.

Comments must be received by May 03, 2010.

Privacy Advisory

Your comments on this Draft EA are requested. Letters or other written or oral comments provided maybe published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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ACRONYMS AND ABBREVIATIONS

96 CEG/CEAR	96 th Civil Engineer Group Assets Real Property
96 CEG/CEV	Environmental Management Division
96 CEG/CEVC	Environmental Management Division, Compliance Branch
96 CEG/CEVSH	Stewardship Branch, Cultural Resources Section
96 CEG/CEVSP	Environmental Management Division, Stewardship Branch, Environmental Analysis Section
AACI	Air Armament Center Instruction
ACM	Asbestos-containing materials
AF	Air Force
AFB	Air Force Base
AFH	Air Force Handbook
AFMC	Air Force Materiel Command
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AQCR	Air Quality Control Region
ASC	Area of Special Concern
AST	Aboveground Storage Tank
bls	Below land surface
BMP	Best management practices
BRAC	Base Realignment and Closure
C&D	Construction and Demolition
CAA	Clean Air Act
CCCL	Coastal Construction Control Line
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH ₄	Methane
cm	Centimeter
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CSE	Comprehensive Site Evaluation
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibels
dBA	A-weighted Decibels
DNL	A-weighted Sound level
DoD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation

EA	Environmental Assessment
EAFB	Eglin Air Force Base
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FAC	Florida Administrative Code
FCMP	Florida Coastal Management Program
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFWC	Florida Fish and Wildlife Commission
FGS	Florida Geological Survey
FICUN	Federal Interagency Committee on Urban Noise
FNAI	Florida Natural Areas Inventory
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
GIS	Geographic Information Systems
HAWC	Health and Wellness Center
HMC	Hazardous Material Cell
HQ	Headquarters
HQ AFMC	Headquarter Air Force Materiel Command
HSWA	Hazardous and Solid Waste Amendment
HW	Hazardous Waste
IRP	Installation Restoration Program
LCD	Land Clearing Debris
LEQ	Equivalent sound level
LBP	Lead-based paint
LOS	Level of Service
LUC	Land Use Control
LUCAP	Land Use Control Assurance Plan
$\mu\text{g}/\text{m}^3$	Micrograms Per Cubic Meter
MBTA	Migratory Bird Treaty Act
mg/m^3	Milligram Per Cubic Meter
mgd	Million gallons per day
MILCON	Military Construction
MMRP	Military Munitions Response Program
MMTCO ₂ E	Million Metric Tons of CO ₂ Equivalent

MOA	Memorandum of Agreement
MRA	Munitions Response Areas
msl	Mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFA	No Further Action
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NO _x	nitrogen oxides
N ₂ O	Nitrous Oxide
NOI	Notice of Intent
NWFWMD	Northwest Florida Water Management District
O ₃	Ozone
OSHA	Occupational Safety and Health Act
Pb	Lead
PCS	Permanent Change of Station
PM _{2.5}	Particulate Matter < or equal to 2.5 micrometers
PM ₁₀	Particulate Matter < or equal to 10 micrometers
ppm	Parts Per Million
POI	Point of Interest
POL	Petroleum, Oil & Lubricant
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCW	Red-Cockaded Woodpecker
RCS	Report Control System
ROI	Region of Influence
SARA	Superfund Amendments and Reauthorization Act
sf	Square foot
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	Sulfur Dioxide
SO _x	Sulfur Oxides
SPCC	Spill Prevention, Control, and Countermeasure
SPW	Special Wastes
SWDA	Solid Waste Disposal Act
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TDY	Temporary Duty Assignment
tpy	Tons per year

TSCA	Toxic Substances Control Act
UFC	Unified Facilities Criteria
US	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WRCA	Water Resource Caution Area

1 PURPOSE OF AND NEED FOR ACTION

1.1 Proposed Action

Eglin Air Force Base (AFB) is proposing to construct a Fitness Training Center and Fitness Training Area (**Figures 1-1 and 1-2**). The project area includes approximately 35 acres of undeveloped land within the Eglin AFB cantonment area. The proposed site is located adjacent to Eglin AFB's East Gate and Addie R. Lewis School in neighboring Valparaiso as presented in **Figure 1-3**.

The new facility would consolidate four existing facilities including Building 810, the current fitness center; Building 843, the Health and Wellness Center (HAWC); and Buildings 719 and 720, the men's and women's field houses. Demolition of these existing facilities is included as a component of the Proposed Action.

The new facility would provide adequate room for an outdoor Fitness Training Area. Consolidation of the facilities would combine management and staffing to allow for more economical administration and extended hours of operation. The new facility would be designed to meet current building, environmental, mechanical, fire, electrical, antiterrorism force protection, and Americans with Disabilities Act codes and standards. Where possible, water efficient, bio-based; and environmentally preferable products and non-ozone depleting substances would be utilized in accordance with USAF Guide to Green Purchasing Green procurement practices (USAF, 2005a).

1.2 Background

According to assessment criteria in the "Eglin FY12 *Fitness Center Requirements Document*" (June 2009), the current facilities are categorized as "substandard." The overall infrastructure at the main gym is failing in spite of previous repairs. Mold and mildew problems in several areas are contributing to air quality issues. The bathrooms are beyond their design life and require modernization. The basketball courts are overcrowded and in poor condition due to overuse. Furthermore, functional space requirements cannot be met due to interior configuration and site limitations which preclude expansion.

Under the current conditions, fitness and conditioning of the troops would decline as people avoid using the facilities due to poor condition and overcrowding. Furthermore, training and

testing capacity, recreational programs, and team and individual sports would remain limited due to space constraints. These conditions reduce individuals' mission readiness and also detract from the Air Force's ability to attract highly trained and qualified personnel.

1.3 Objectives of the Proposed Action

The purpose of the Proposed Action is to consolidate Eglin AFB's physical fitness centers to combine operations, including management and staffing, and to provide up-to-date training facilities for troops to maintain physical fitness and participate in recreational programs.

The objectives of the Proposed Action are as follows:

- To provide a properly sized and functionally configured facility to offer personnel an area to pursue proper physical fitness needs on Eglin AFB. Eglin AFB currently has 65,000 square feet (sf) of indoor fitness space, including 45,092 sf in the fitness center, 15,653 sf in the HAWC, and 4,255 sf in the men's and women's field houses.

In accordance with the "Air Force Services Agency Facilities Design Guide: Fitness Center" (December 2005), fitness center size should be determined by authorized base population, which is defined as assigned military personnel including Air Force (AF) and other United States (US) military, full-time AF Reserve/Air National Guard, and personnel in inter-service support agreements; family members (50% aged 13 or older); and military transients including the average daily strength of permanent change of station (PCS) members, students, or members on temporary duty assignment (TDY). Using this formula, Eglin AFB has a current base population of approximately 12,219. Between 2010 and 2012 the Base Realignment and Closure (BRAC) initiatives for the 7th Special Forces and the Joint Strike Fighter may bring up to an additional 9,050 people to Eglin AFB including active duty personnel and their dependents (Spaits, 2009).

An excerpt of the Base Classification and Authorized Scope for Fitness Centers with a HAWC from the December 2005 *Facilities Design Guide: Fitness Center* is given in **Table 1-1**.

Table 1-1 Excerpt from Base Classifications and Authorized Fitness Center Space

Category	Population Bracket	Authorized Square Footage	Authorized Square Meters
Mega 6	11,001 -12,000	123,236	11,449
Mega 7	12,001 – 13,000	128,236	11,913
Mega 8	13,001 – 14,000	133,236	12,378
Mega 9	14,001 – 15,000	138,236	12,842
Mega 10	15,001 – 16,000	143,236	13,307
Mega 11	16,001 – 17,000	148,236	13,771
Mega 12	17,001 – 18,000	153,236	14,236
Mega 13	18,001 – 19,000	158,236	14,700
Mega 14	19,001 – 20,000	163,236	15,165
Mega 15	20,001 – 21,000	168,236	15,629
Mega 16	21,001 – 22,000	173,236	16,094
Mega 17	22,001 – 23,000	178,236	16,558

Considering Eglin’s current population of 12,219, Eglin is classified as a Mega 7 base and is authorized a 128,236 sf fitness center. If the BRAC influx of personnel is considered, then an approximate population of 21,269 would cause Eglin to be classified as a Mega 16 base and authorized a 173,236 sf fitness center.

- Consolidate fitness facilities into a single entity. Maximize use of management and staff to provide 24-hour operation.
- Provide adequate space for parking requirements. In accordance with Air Force Handbook (AFH) 32-1084 *Civil Engineering: Facility Requirements*, Fitness Center parking guidelines are to accommodate one-percent of the military strength served. In accordance with the guidance, Eglin’s military strength including assigned and transient military is 8,599 personnel (Eglin, 2009); therefore the required parking space allotment

is 86. A space allowance of 315 sf per parking space (AFH32-1084) times the 86 required spaces would require 27,090 sf to be reserved for parking.

- Provide adequate space for an outdoor Fitness Training Area of at least 20 acres that is contiguous to the fitness facility.
- Maximize use of existing running track and ball fields to the extent possible.
- Maintain proximity to Airmen's living areas. The facility must be located in the proximity of dormitories and dining facilities for ease of accessibility.
- Meet Department of Defense (DoD) antiterrorism force protection measures and standards. Integrate safety features to meet the *Unified Facilities Criteria (UFC) 4-010-01 DoD Minimum Antiterrorism Standards for Buildings*.
- Employ energy conservation and sustainable design concepts. The facility must be designed in accordance with current energy conservation and sustainable design concepts

The purpose of this Environmental Assessment (EA) is to document the environmental consequences of the Proposed Action and determine if a Finding of No Significant Impact (FONSI) is appropriate.

1.4 Related Documents

Documents related to the Proposed Action include the following:

- Air Force Handbook 32-1084, Civil Engineering: Facility Requirements
- Air Force Services Agency Facilities Design Guide: Fitness Center
- Eglin FY12 Fitness Center Requirements Document, Project No. FTFA041202
- Unified Facilities Criteria DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01)
- Unified Facilities Criteria for Fitness Centers (UFC 4-740-02)
- Unified Facilities Criteria for Parking (UFC 3-210-02)

1.5 Scope of the Environmental Assessment

This EA identifies, describes, and evaluates the potential environmental, socioeconomic, and cultural impacts associated with construction of the Proposed Action. Additionally, the potential cumulative impacts of this Proposed Action with other actions are also evaluated in **Section 4**.

This EA has been prepared in accordance with the following:

- National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190, Title 42, Chapter 55, United States Code (USC), Sections 4321-4347 [42 USC 4321-4347])
- President's Council on Environmental Quality (CEQ) Regulation, 40 Code of Federal Regulations (CFR) 1500-1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, dated November 28, 1978
- 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*, dated July 15, 1999, the USAF's implementing regulation for NEPA

To initiate the environmental analysis, the 96th Force Support Squadron (96 SVS/FSVS) submitted an AF Form 813, *Request for Environmental Impact Analysis*, to the Environmental Management Division, Stewardship Branch, Environmental Analysis Section (96 CEG/CEVSP). Review of the AF Form 813 by the 96 CEG/CEVSP determined that an Environmental Assessment is required. The AF Form 813 control number for this project is Report Control System (RCS) Number 07-812.

1.5.1 Issues Eliminated from Detailed Analysis

Based on the scope of the Proposed Action and the No-Action Alternative, as well as preliminary analyses, Eglin AFB eliminated the following issues from further analysis.

Air Space

The Proposed Action would not affect air space. Therefore, further analysis for potential air space impact was not warranted or conducted.

Cultural Resources

Numerous laws and regulations address the management of cultural resources. As a Federal Agency, Eglin AFB is required by law to consider the effects of its actions on historic properties. These mandating regulations include, but are not limited to the following:

- Antiquities Act of 1906
- Historic Sites Act of 1935
- NEPA of 1969
- NHPA of 1966 (as amended 36 CFR Part 800)
- Archaeological and Historic Preservation Act of 1974
- Archaeological Resources Protection Act of 1979
- Native American Graves Protection and Repatriation Act of 1990
- American Indian Religious Freedom Act of 1978
- Air Force 32-7965 (guidelines for Native American consultation)

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, traditional cultural places, and any other physical evidence of human activity considered important to a culture or community for scientific, traditional, religious, or other reasons. They can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources. Archaeological resources are locations and objects from past human activities. Architectural resources are those standing structures that are usually over 50 years of age and are of historic or aesthetic importance. Traditional cultural resources hold importance or significance to Native Americans or other ethnic groups in the persistence of traditional culture.

Potential adverse impacts on cultural resources might include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; or neglecting the resource to the extent that it deteriorates or is destroyed.

The cultural resources management program at Eglin is administered by the Stewardship Branch, a division of the Civil Engineering Group, and is overseen by a Civil Service force headed up by the Stewardship Branch Chief (Base Historic Preservation Officer) and two cultural resource program managers, one each for historic buildings and archaeology. The goal of the program is to protect Eglin's cultural resources in compliance with federal mandates without impeding

Eglin's mission. In order to accomplish this goal, a number of cultural resource investigations have been conducted on Eglin AFB property. The area associated with the Proposed Action was included in Survey X-716 which covered 65-acres (Mallory, 2004). The results of the survey concluded that there are no cultural resources in the area associated with the Proposed Action. Furthermore, none of the buildings scheduled for demolition have been determined eligible for listing in the National Register of Historic Places (NRHP). A letter from the State Historic Preservation Officer concurring with the findings of the survey is included as **Appendix A**.

Consequently, cultural resource issues have been eliminated from detailed analyses.

However, if cultural resources, human remains, or other unexpected discoveries are encountered during project activities, work would cease and Eglin's Cultural Resource Section must be contacted at (850) 882-8459. If unexpected discoveries such as Native American graves or lost historic cemeteries are encountered, guidelines set forth in Chapter 872, F.S. (Florida's Unmarked Burial Law) must be followed. Cultural Resources would notify the Florida State Historic Preservation Officer at (850) 245-6333 within 24 hours to begin procedures outlined in Chapter 872, F.S. The discovery would be protected until a qualified archaeologist can make a determination as to the status of the find. The site would be secured and work would only continue upon direction or authorization from 96 CEG/CEVSH.

Environmental Justice

Air Force Instruction (AFI) 32-7061 *The Environmental Impact Analysis Process* and Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, instruct Federal agencies to consider the potential for a Proposed Action to cause disproportionately high and adverse health effects on minority populations or low-income populations. Preliminary analysis indicated that the Proposed Action would not adversely impact any minority populations or low-income populations. The Proposed Action would be constructed on unimproved military property (**Figure 1-3**). Privately owned land and eight residences are located along the eastern border of the site and a public school is located along the northern border of the site. A fitness center is compatible with residential and educational land use, and a 50-foot minimum buffer of natural vegetation would be maintained along the eastern and northern borders of the project area. As such, the Proposed Action would

not adversely impact any minority or low-income populations. Consequently, environmental justice issues were eliminated from detailed analyses.

Land Use

The land use associated with the area of the Proposed Action is unimproved military property classified as outdoor recreation (**Figure 1-3**). Therefore, the project would not affect land use classification and further analysis for potential land use impact was not conducted.

Radon

The Proposed Action is not located in an area with a high potential for radon, therefore, further analysis for potential radon impact was not warranted or conducted.

Socioeconomics

Socioeconomics addresses the potential for positive and negative impacts on the economy in and around the area of the Proposed Action. During the construction phase, it is likely that the project would create construction jobs, thus, the local economy may experience a temporary positive impact. The Proposed Action is not expected to have any negative impacts on employment, housing, Eglin AFB, or Okaloosa County services. Therefore, socioeconomic issues were eliminated from further consideration.

Utilities

The construction of the Proposed Action would require the extension of existing utilities. The relocation of existing utilities would include any electric, gas, fiber optic cable, television cable, drinking water, and sewer infrastructure, as necessary. This action would not decrease the service of these utilities to the surrounding areas, and the required coordination with either on-base providers or local utility service providers would ensure no conflicts are experienced. The Proposed Action would not adversely impact existing electric, drinking water, sewer, communications, or gas service. Therefore, further analysis for potential utilities impact was not conducted.

1.5.2 Issues Studied in Detail

Preliminary analysis based on the scope of the Proposed Action and the No-Action Alternative identified the following potential environmental issues warranting detailed analysis:

- Air Quality
- Biological Resources
- Coastal Zone Management
- Geological Resources
- Hazardous Waste
- Noise
- Safety
- Solid Waste
- Transportation
- Water Resources

1.6 Summary of Key Environmental Compliance Requirements

1.6.1 National Environmental Policy Act

NEPA (42 USC Section 4321-4347) is the Federal statute requiring the identification and analysis of potential environmental impacts associated with proposed Federal actions before those actions are taken. NEPA established the CEQ, which is charged with the development of regulations that ensure Federal agency compliance with NEPA. The implementing regulations for NEPA are codified in 40 CFR 1500-1508. CEQ regulations specify that an EA be prepared to briefly provide evidence and analysis for determining whether to prepare a FONSI or whether the preparation of an Environmental Impact Statement (EIS) is necessary. The EA can aid in an agency's compliance with NEPA when an EIS is unnecessary and can facilitate preparation of an EIS when one is required. The USAF's implementing regulation for NEPA is 32 CFR 989.

1.6.2 Integration of Other Environmental Statutes and Regulations

To comply with NEPA, the planning and decision-making process for Proposed Actions by Federal agencies involves a study of other relevant environmental statutes and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental statutes and regulations. NEPA addresses them collectively in the form of an EA

or EIS, which provides the decision-maker with a comprehensive view of major environmental issues and requirements associated with the Proposed Action.

Other environmental regulatory requirements relevant to the Proposed Action and alternatives are considered in this EA. Included among them are regulatory requirements under the following programs:

- Noise Control Act of 1972 (42 USC Sections 4901-4918)
- Clean Air Act of 1990 (CAA) (42 USC 7401 et seq)
- Clean Water Act of 1972 (CWA) (33 USC Sections 1251-1376)
- National Historic Preservation Act of 1966 (NHPA) (16 USC 470 et seq)
- Endangered Species Act of 1973 (ESA) (16 USC Sections 1531-1544)
- Migratory Bird Treaty Act of 1918 (16 USC Sections 703-712)
- Coastal Zone Management Act of 1972 (CZMA) (16 USC Sections 1451-1464)
- Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC Sections 6901-6992)
- Toxic Substances Control Act of 1970 (TSCA) (15 USC Sections 2601-2671)
- Occupational Safety and Health Act of 1970 (OSHA) (29 USC Sections 651 et seq)

Requirements also include compliance with the following:

- AFI 32-7065 Cultural Resources Management
- EO 11988, Floodplain Management
- EO 11990, Protection of Wetlands
- EO 12088, Federal Compliance with Pollution Control Standards
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 13112, Invasive Species

The Proposed Action requires coordination with outside agencies as described in the subsections below. As the proponent, Eglin AFB will be responsible for obtaining or overseeing the

acquisition of all required permits and ensuring compliance with all conditions contained within the permits. A list of agencies consulted appears in **Appendix B**.

1.6.3 Environmental Permit Requirements

The Proposed Action requires coordination with outside agencies as described in the subsections below. As the proponent, Eglin AFB will be responsible for obtaining or overseeing the acquisition of all required permits and ensuring compliance with all conditions contained within the permits.

1.6.3.1 Environmental Resource Permit

The increase in impervious surface associated with the Proposed Action would require application for an Environmental Resources Permit for stormwater issued by the Northwest Florida Water Management District (NFWFMD) under Florida Administrative Code (FAC) 62-346, *Environmental Resource Permitting in Northwest Florida*. The Environmental Resource Permit program regulates the construction, alteration, maintenance, removal, modification, and operation of all activities in uplands, wetlands, and other surface waters that would alter, divert, impede, or otherwise change the flow of surface waters. The program is designed to ensure that such activities do not degrade water quality or cause flooding.

1.6.3.2 Stormwater Discharge Permit for Construction Activities

The Proposed Action would be expected to disturb approximately 35 acres of land. A project of this size is defined as a large construction activity for permitting under the state of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities under FAC 62-621.300. To obtain coverage under the Generic Stormwater Permit, a notice of intent (NOI) would be filed prior to commencing construction activities. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented for construction as part of the Proposed Action (Florida Department of Environmental Protection [FDEP], 2003).

1.6.3.3 Public Water Supply System Extension

Depending on the design of the water connections, permitting may be required in accordance with State regulations prior to construction or alteration of any public water system component. Prior to initiating the Proposed Action, the proponent should file a NOI to Use the General

Permit for Construction of Water Main Extensions for Public Water Supply under FAC 62-555, *Permitting, Construction, Operation, and Maintenance of Public Water Systems*.

1.6.3.4 Wastewater System Extension

The Florida Air and Water Pollution Control Act established that no wastes are to be discharged to any waters of the state without the treatment necessary to protect the beneficial use of such water. As such, the proponent must comply with State regulations and depending on the design of the wastewater connections, permitting may be required prior to the construction or modification to domestic wastewater collection/transmission systems. Prior to initiating the Proposed Action, the proponent should complete a Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System under FAC 62-604, *Collection System and Transmission Facilities*.

1.6.3.5 Asbestos Notification

The proposed action includes the demolition of buildings 719, 720, 810, and 843. These buildings may or may not contain asbestos. In accordance with FAC 62-257 and 40 CFR 61.145, State notification (FDEP Northwest District) must be made 10 days prior to demolition and a copy of this notice must be sent to 96 CEG/CEVCP. Also, remove any PCB items prior to demolition (such as light ballasts) and mercury containing items (such as fluorescent tubes, thermostats).

1.6.3.6 Storage Tank Systems Notification

The Proposed Action includes installation of an emergency power generator and an associated aboveground fuel storage tank. The fuel storage tank would be added to the base's Spill Prevention, Control, and Countermeasure (SPCC) Plan, and a site-specific spill response plan should be developed. If the fuel storage tank has a capacity greater than 550 gallons, the tank must be registered under FAC 62-762, Petroleum Storage Systems (Aboveground Storage Tank Systems). The Escambia County Health Department manages the petroleum tank program for Okaloosa County through an agreement with FDEP.

1.6.3.7 CZMA Consistency Determination

A CZMA consistency determination was prepared for this Proposed Action (see **Appendix C**). The CZMA consistency determination is reviewed for concurrence by Florida agencies through the Florida State Clearinghouse process.

1.7 Public and Agency Notification

Draft copies of the EA have been sent to applicable Federal, state, and local agencies listed in **Appendix B** to notify them of the Proposed Action. The public has also been notified of the Proposed Action and given an opportunity to comment. The public notices, which were published in the *Northwest Florida Daily News* and the *Bay Beacon*, are presented in **Appendix D**.

Documentation of public notice, agency coordination, and agency responses is located in **Appendix B**. No public response was received.

The CZMA (16 USC 1451-1464), as amended, requires Federal agencies carrying out activities subject to the act to provide a “consistency determination” to the relevant state agency. The Air Force’s consistency determination for the Proposed Action is contained in the Consistency Statement provided in **Appendix C**. This EA has been submitted to the Florida State Clearinghouse for a multi-agency review. The Florida State Clearinghouse, with input from state and county agencies, has determined the Proposed Action is consistent with the Florida Coastal Management Program. Documentation of this concurrence is included in **Appendix B**.

1.8 Organization of this Document

This EA follows the organization established by the CEQ regulations (40 CFR 1500-1508). This document consists of the following chapters and appendices.

Section 1 - Purpose of and Need for Action

Section 2 - Description of Proposed Action and Alternatives

Section 3 - Affected Environment

Section 4 - Environmental Consequences

Section 5 - List of Preparers

Section 6 - List of Agencies and Persons Contacted

Section 7 - References

Appendix A – SHPO Concurrence

Appendix B - Interagency Coordination

Appendix C - Coastal Zone Management Act Consistency Determination

Appendix D - Public Notice

Appendix E - Air Data Calculations

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2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action, which is the Preferred Alternative, is to construct a Fitness Training Center and Fitness Training Area. The Proposed Action is necessary to provide adequate fitness facilities available for 24-hour operation. The Proposed Action would consolidate functions from the current gym and HAWC and replace the existing men's and women's field houses. According to the excerpt from the December 2005 Facilities Design Guide for Fitness Centers provided as **Table 1-1** and Eglin's current population of 12,219, Eglin is classified as a Mega 7 base and is authorized a 128,236 sf fitness center. If the BRAC influx of personnel is considered, then an approximate population of 21,269 would cause Eglin to be classified as a Mega 16 base and authorized a 173,236 sf fitness center.

The facility would include core administration space; a service counter; facility support areas; locker rooms; a gymnasium to accommodate basketball and volleyball areas, spectator support areas, and an indoor running track; a group exercise area; a fitness equipment area; racquetball courts, massage rooms; a juice bar; a parent-child area; and storage areas. The HAWC would be co-located with a separate entrance. The HAWC area would include administration space, classrooms, a wellness assessment room, a cooking demonstration kitchen, ergometry/fitness testing areas, restrooms, and storage space. The new facility would provide adequate space and updated equipment and would allow adequate manning to provide 24-hour operation, which would better enable Eglin personnel to be "Fit to Fight."

The proposed location for the new facility is within Eglin AFB's main cantonment area adjacent to Eglin AFB's East Gate and Addie R. Lewis School in neighboring Valparaiso as presented in **Figure 1-3**. The site is approximately 35 acres and would accommodate the necessary square footage for the Fitness Training Center, associated parking (27,090 sf) and provide adequate space for a contiguous outdoor Fitness Training Area (approximately 22 acres) (**Figure 2-1**). The site can currently be accessed by entering Foster Road at its intersection (3-way signal) with Eglin Boulevard (**Figure 1-3 and 2-1**).

2.2 No-Action Alternative

Under the No-Action Alternative, Eglin AFB would not construct the new facility or training area. Personnel would continue to utilize the existing facilities which are categorized as “substandard.” As the base population increases, conditions would further deteriorate. Fitness and conditioning of the troops would decline as people avoid using the facilities due to the poor condition and overcrowding. Training and testing capacity, recreational programs, and team and individual sports would remain limited due to space constraints. The current conditions would reduce individuals’ mission readiness and detract from the Air Force’s ability to attract highly trained and qualified personnel.

2.3 Other Alternatives Considered

In accordance with NEPA and Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, the Air Force must analyze reasonable alternatives to the Proposed Action and the No-Action Alternative. Reasonable alternatives are those that meet the underlying purpose and need for the Proposed Action and would cause a reasonable person to inquire further before choosing a particular course of action. Alternatives may be eliminated from detailed analysis based on operational concerns, technical standards, environmental standards, or other factors applicable to a particular project.

2.3.1 Westgate Shopette Alternative

An alternate location is considered adjacent to the Westgate Shopette (**Figure 2-2**). This location would accommodate a fitness center and an extension to the existing obstacle course. Utilization of this location would require clearing of approximately 30-acres, expansion of the one-way access road associated with the West Gate Shopette, and modification to the intersection at Nomad Way.

2.3.2 Oak Hill Elementary School Alternative

An alternate location is considered adjacent to Oak Hill Elementary School (**Figure 2-2**). This location has approximately six acres available for clearing for the fitness center and would utilize the existing running track.

2.3.3 Alternative East Gate Configuration

An alternate configuration is considered within the East Gate athletic complex (**Figure 2-2**). This configuration would accommodate a 14,422 sf fitness center and would include the demolition of Buildings 719, 720, and 810. The alternate configuration would place the fitness center between the existing running track and Building 719 and would require realignment of the dirt road between the track and field houses. However, with this configuration the existing HAWC facility would have to continue to be used and thus a complete consolidation would not be possible.

2.4 Alternatives Eliminated From Further Study

2.4.1 Westgate Shopette Alternative

The West Gate Shopette Alternative is located approximately 3.35 miles from the airmen's living quarters and therefore does not meet the proximity objective of the Proposed Action. Furthermore, the active flight line is located between the dormitories and the West Gate Shopette which prevents direct access by way of running or biking zone. Therefore, this location has been eliminated from further study.

2.4.2 Oak Hill Elementary School Alternative

The Oak Hill Elementary School Alternative is located approximately 3.39 miles from the airmen's living quarters and therefore does not meet the proximity objective of the Proposed Action. The Oak Hill location does not have sufficient space for a ~20 acre fitness area and due to its location beyond the active flight line it cannot be directly accessed by way of running or biking zone from the airmen's dormitories. Therefore, this location has been eliminated from further study.

2.5 Selection of Alternatives to Carry Forward for Analysis

A number of alternatives were considered for the placement of the Fitness Training Center and Fitness Training Area. As discussed above in **Section 2.4**, two of these alternatives were eliminated from further analysis since they did not meet one or more of the project objectives. To further evaluate and select alternatives to carry forward for analysis, selection criteria were derived from the Purpose of and Need for the Proposed Action, as previously described in **Section 1**. The Alternative East Gate Configuration and the Preferred Alternative generally meet

the project objectives as they are located in the proximity of airman's living quarters, and design plans would meet antiterrorist force protection, energy, and sustainable design requirements. The project objectives and how the alternatives differ in meeting them are presented below in Table 2-1.

Table 2-1 Selection of Alternatives to Carry Forward

<i>Objectives</i>	<i>Preferred Alternative</i>	<i>Alternative Configuration</i>	<i>No-Action Alternative</i>
<u>To provide a properly sized and functionally configured facility to offer personnel an area to pursue proper physical fitness needs on Eglin AFB.</u>	The Preferred Alternative would be designed as a Mega 7 category facility (128,236 sf).	The Alternative Configuration would be designed as 14,422 sf facility.	Under the No-Action Alternative, a new facility would not be constructed.
<u>Consolidate fitness facilities into a single entity.</u>	The Preferred Alternative would consolidate the existing gym, HAWC, and men's and women's field houses.	The Alternative Configuration would consolidate the existing gym and the men's and women's field houses. However the HAWC facility would remain located in the existing facility and thus complete consolidation would not be possible.	Under the No-Action Alternative, the existing facilities would not be consolidated.
<u>Provide adequate space for parking requirements.</u>	The Preferred Alternative has adequate space for the required parking.	The Alternative Configuration would utilize existing parking associated with the current running track, ball fields, and field houses.	Under the No-Action Alternative, a new facility would not be constructed and no additional parking would be required.

<i>Objectives</i>	<i>Preferred Alternative</i>	<i>Alternative Configuration</i>	<i>No-Action Alternative</i>
<u>Provide adequate space for an outdoor Fitness Training Area of at least 20 acres that is contiguous to the fitness facility.</u>	The Preferred Alternative would include approximately 22 acres to be utilized for a Fitness Training Area, while providing a 50-ft vegetation buffer around the area.	The Alternative Configuration would include space for a Fitness Training Area, but would be less than the desired 20-acres.	Under the No-Action Alternative, the Fitness Training Area would not be constructed.
<u>Maximize use of existing running track and ball fields to the extent possible.</u>	The Preferred Alternative would incorporate the existing ball fields and running track in the overall athletic complex.	The Alternative Configuration would not affect the existing ball fields, but its proposed location would be within 20-feet of the current running track and would negatively affect the track's continued viability.	Existing conditions would continue.
<u>Maintain proximity to Airmen's living areas.</u>	The Preferred Alternative would be within reasonable proximity to the Airmen's living areas.	The Alternative Configuration would be within reasonable proximity to the Airmen's living areas.	Existing conditions would continue.
<u>Meet DoD antiterrorism force protection measures and standards.</u>	The Preferred Alternative would incorporate current DoD antiterrorism force protection measures and standards.	The Alternative Configuration would incorporate current DoD antiterrorism force protection measures and standards.	Existing conditions would continue.
<u>Employ energy conservation and sustainable design concepts.</u>	The Preferred Alternative would incorporate energy conservation and sustainable design concepts.	The Alternative Configuration would incorporate energy conservation and sustainable design concepts in new construction, but without renovation, the existing HAWC would be utilized.	Existing conditions would continue.

As shown in **Table 2-1** above, the Preferred Alternative is the only alternative that fully meets all the selection criteria for the Fitness Training Center and Fitness Training Area and will be

evaluated in this EA. As required by NEPA, the No-Action Alternative will also be carried forward for analysis.

2.6 Summary Comparison of Alternatives and Issues

Potential issues and impacts associated with the Proposed Action and No-Action Alternative are summarized below in **Table 2-2**.

Table 2-2 Summary of Issues and Potential Impacts

<i>Issue</i>	Proposed Action	No Action
Air Quality	The majority of the air emissions would be short-term and would diminish once construction activities are completed. Other air emissions from generators associated with the facility would be minor long-term emissions. Modeling suggests emission limits would not be exceeded as a result of this Proposed Action. As such, no adverse impacts are anticipated.	No impacts would occur.
Biological Resources	There are no documented Federal- or state-listed species associated with the area of the Proposed Action. A gopher tortoise survey would be conducted approximately 30-days prior to construction activities. Additionally, informational signs for the Eastern indigo snake would be posted during construction to familiarize work crews with the snake's appearance. The signs will provide procedures to follow if a sighting occurs. Only minor adverse impacts on biological resources would be expected.	No impacts would occur.
Coastal Zone Management	The consistency determination included in Appendix C has been submitted to the Florida State Clearinghouse to ensure consistency with coastal zone management regulations and guidelines.	No impacts would occur.
Geological	Implementation of erosion control measures associated with permit requirements would minimize the potential for soil erosion. Grading, excavating, and re-contouring of soils and shallow geologic sediments would result in minor disturbance. The Proposed Action would have minor short-term adverse impacts on geological resources.	No impacts would occur.

<i>Issue</i>	Proposed Action	No Action
Hazardous Materials, Hazardous Waste, and Solid Waste	<p>Management of all hazardous materials and hazardous wastes encountered or generated during demolition or construction would be handled in accordance with AFI 32-7086, Hazardous Materials Management and the current Eglin AFB Hazardous Waste Management Plan. The Proposed Action is expected to have minor adverse short-term and negligible long-term impact on hazardous materials and wastes.</p> <p>Eglin ERP Site Point of Interest (POI)-519, the Base Auto Hobby Shop, is 200-feet east to southeast of the project site. Lay-down yards or access roads must be coordinated with 96 CEG/CEVSN and 96 CEG/CEVR so as not to interfere with site investigation or remediation planned for POI-519.</p> <p>The Proposed Action is not expected to adversely impact the capacity of local landfills which handle solid waste or construction/demolition debris. Waste increase to the landfills from the project activities would be minor. With minimization of vegetative wastes through chipping trees and stumps and selling for fuel, mulch, etc., the land clearing waste tonnage can be reduced by approximately 90%. Construction and Demolition debris landfills have adequate capacity to accommodate the quantity of demolition debris associated with the Proposed Action. As such, the Proposed Action would have minor to no impact on solid waste.</p>	No impacts would occur.
Noise	Analysis completed for this EA indicates operational and temporary construction/demolition noise associated with the Proposed Action would occur on a short-term intermittent basis, and thus a minor short-term impact would be expected.	No impacts would occur.
Safety	Safety impacts from construction activity would occur. Standard construction safety protocol and OSHA regulations would be implemented to limit impact. A short-term minor adverse impact would be expected.	No impacts would occur.
Transportation	Transportation impacts from construction activity would occur. Mitigation such as timing construction work shifts to avoid peak traffic hours could be implemented to limit impact. A short-term minor adverse impact is expected during construction, and a long-term negligible adverse impact is expected once construction is complete due to increased traffic at the fitness facility.	No impacts would occur.

<i>Issue</i>	Proposed Action	No Action
Water Resources	<p>Through implementation of best management practices and required stormwater and erosion control measures, there would be no adverse impacts to drainage basin, floodplain, surface water, or surficial ground water resources.</p> <p>Water saving devices would be utilized in the new facility under “green” procurement practices. The level of water usage/savings calculated for the new facility does not represent adverse effect on the Floridan Aquifer.</p> <p>Stormwater management would be implemented to handle the increase in impervious surface associated with the Proposed Action.</p>	No impacts would occur.

3 AFFECTED ENVIRONMENT

This section presents information on environmental conditions for resources potentially affected by the Proposed Action and the No-Action Alternative described in **Section 2.0**. Under the NEPA, analysis of environmental conditions should address only those areas and environmental resources with the potential to be affected by the Proposed Action or alternatives. Locations and resources with no potential to be affected need not be analyzed. The topics evaluated in this section and subsequently analyzed in **Section 4.0** were selected based on their relevance, as described in **Section 1.0**. For the analyses in this EA, baseline conditions represent the status of Eglin AFB and Okaloosa County in 2009.

3.1 Air Quality

3.1.1 Definition

Air Pollutants and Regulations

The CAA of 1970 directed the United States Environmental Protection Agency (USEPA) to develop, implement, and enforce strong environmental regulations that would ensure cleaner air for all Americans. The CAA Amendments of 1990 are currently the comprehensive Federal legislation regulating the prevention and control of air pollution. EO 12088, Federal Compliance with Pollution Control Standards; AFPD 32-70, Environmental Quality; and AFI 32-7040 Air Quality Compliance are the implementing standards for DoD compliance with the CAA.

Under the provisions of the CAA, the USEPA established both primary and secondary concentration-based standards called National Ambient Air Quality Standards (NAAQS). Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define air quality levels necessary to protect public welfare (i.e., soils, vegetation, property, and wildlife) from any known or anticipated adverse effects. NAAQS are currently established for six air pollutants, known as criteria air pollutants. These include carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), sulfur oxides (SO_x) (measured as sulfur dioxide [SO₂]), lead (Pb), and particulate matter. Particulate matter standards incorporate two particulate classes: (1) particulate matter with an aerodynamic diameter less than or equal to 10 micrometers [PM₁₀] and (2) particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers [PM_{2.5}].

The CAA does not make the NAAQS directly enforceable; however, the CAA does require each state to promulgate a State Implementation Plan (SIP) that provides for implementation, maintenance, and enforcement of the NAAQS in each air quality control region (AQCR) in the state. Title I of the CAA requires Federal actions to conform to the provisions of the approved SIP, which is developed and maintained in Florida by the FDEP under Chapter 62 of the FAC.

The USEPA classifies the air quality within an AQCR according to whether or not the concentration of criteria air pollutants in the atmosphere exceeds primary or secondary NAAQS. All areas within each AQCR are assigned a designation of attainment, nonattainment, maintenance, unclassifiable attainment, or not designated attainment for each criteria air pollutant. An attainment designation indicates that the air quality within an area is as good as or better than the NAAQS. Nonattainment indicates that air quality within a specific geographical area exceeds applicable NAAQS. Maintenance indicates that an area was previously designated nonattainment but is now attainment. Unclassifiable and not designated indicate that the air quality cannot be or has not been classified on the basis of available information as meeting or not meeting the NAAQS. Areas designated as unclassifiable or not designated are treated as attainment (CAA, 1990).

As promulgated in the FAC 62-204.240, the state of Florida has adopted each of the NAAQS as the Florida standards except for SO₂, as listed in **Table 3-1**. The standards are reported in parts per million (ppm), milligram per cubic meter (mg/m³), or microgram per cubic meter (µg/m³).

Table 3-1 National and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	Primary NAAQS ^{a,b}	Secondary NAAQS ^{a,d}	Florida Standards ^{a,e}
Carbon Monoxide	8-hour	9 ppm (10 mg/m ³)	No standard	9 ppm (10 mg/m ³)
	1-hour	35 ppm (40 mg/m ³)	No standard	35 ppm (40 mg/m ³)
Nitrogen Dioxide	Annual	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
Ozone	1-hour ^c	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)
	8-hour ^d	0.075 ppm (0.2 µg/m ³)	0.075 ppm (0.2 µg/m ³)	0.075 ppm (0.2 µg/m ³)
Sulfur Dioxide	Annual	0.03 ppm (80 µg/m ³)	No standard	0.02 ppm (60 µg/m ³)
	24-hour	0.14 ppm (365 µg/m ³)	No standard	0.10 ppm (260 µg/m ³)
	3-hour	No standard	0.50 ppm (1,300 µg/m ³)	0.50 ppm (1300 µg/m ³)
Lead	Quarterly	1.5 µg/m ³	1.5 µg/m ³	1.5 µg/m ³
PM _{2.5}	Annual	15.0 µg/m ³	15.0 µg/m ³	15.0 µg/m ³
	24-hour	35 µg/m ³	35 µg/m ³	35 µg/m ³
PM ₁₀	24-hour	150 µg/m ³	150 µg/m ³	150 µg/m ³

Notes:

ppm parts per million

PM_{2.5} Particles with aerodynamic diameter of 2.5 micrometers or lessPM₁₀ Particles with aerodynamic diameters less than or equal to a nominal 10 micrometersmg/m³ milligram per cubic meterµg/m³ microgram per cubic meter

--- not established

^a The NAAQS and Florida standards are based on standard temperature of 0 degrees Celsius and standard pressure of 760 millimeters of mercury.^b National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the SIP is approved by the USEPA.^c The ozone one-hour standard still applies to areas that were designated nonattainment when the ozone eight-hour standard was adopted in 1997. The one-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly concentrations above the standard is equal to or less than one averaged over a three year period.^d The 8-hour primary and secondary ambient air quality standards for ozone are met at a monitoring site when the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.075 ppm.

^c National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a “reasonable time” after the SIP is approved by the USEPA.

Section 176 (c)(4) of the CAA, the General Conformity Rule, requires that any Federal action must meet the requirements of a state or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not result in the following: a new violation of the NAAQS, an increase in the frequency or severity of violations of NAAQS, or delays in the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS.

The General Conformity Rule applies only to actions in nonattainment or maintenance areas and considers both direct and indirect emissions. The rule applies only to Federal actions that are considered “regionally significant” or where the total emissions from the action meet or exceed the *de minimis* thresholds presented in 40 CFR 93.153. An action is regionally significant when the total nonattainment pollutant emissions exceed 10% of the AQCR’s total emissions inventory for that nonattainment pollutant. If a Federal action does not meet or exceed the *de minimis* thresholds and is not considered regionally significant, then a full Conformity Determination is not required. Each of the three counties in which Eglin AFB is located is in attainment for all criteria pollutants; therefore, the Conformity Rule does not apply to Eglin AFB or the surrounding areas.

Title V of the CAA requires identification and characterization of emissions from all Minor Sources and requires state and local agencies to permit Major Stationary Sources. Minor Sources include aircraft maintenance facilities, fuel storage tanks, and emissions from aircraft and motor vehicles. Generally, Major Stationary Sources are facilities such as industrial manufacturing plants, military bases, refineries, or other activities that can emit more than 100 tons per year (tpy) of any one criteria air pollutant, 10 tpy of a hazardous air pollutant, or 25 tpy of any combination of hazardous air pollutants. However, lower pollutant-specific Major Source permitting thresholds apply in nonattainment areas. For example, the Title V permitting threshold for an “extreme” O₃ nonattainment area is 10 tpy of potential Volatile Organic Compound (VOC) or NO_x emissions. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and monitor their impact on air quality.

New Major Sources (including major modifications at existing facilities) regulated under the CAA are subject to Federal Prevention of Significant Deterioration (PSD) regulations which define air pollutant emissions to be “significant” if (1) a proposed project is within 10 kilometers of any Class I area and (2) regulated pollutant emissions would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I area of $1.0 \mu\text{g}/\text{m}^3$ or more (40 CFR 52.21(b)(23)(iii)). PSD regulations also define ambient air increments, limiting the allowable increases to any area’s baseline air contaminant concentrations, based on the area’s designation as Class I, II, or III (40 CFR 52.21(c)). Eglin AFB is designated as Class II, and it is not within 10 kilometers of a Class I area; therefore, the PSD regulations do not apply.

Greenhouse Gases

In April 2007, the US Supreme Court concluded (*Massachusetts v. EPA*, 549 U.S. 497) that greenhouse gases meet the definition of air pollutants under the CAA and that the EPA has the authority to regulate these types of emissions. Regulations for automobile and other sources of greenhouse gases under the CAA are pending (USEPA, 2009). The primary greenhouse gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. Some greenhouse gases occur naturally and are emitted into the atmosphere through natural processes. Other greenhouse gases such as fluorinated gases are created and emitted only through human activity and have increased over 25% in the last 150 years of industrial activity (DOE, 2008). Greenhouse gases allow sunlight to enter the atmosphere freely, and when sunlight hits the Earth’s surface, some of sunlight is reradiated back towards space as infrared radiation (heat). Over time, the amount of energy sent from the sun to the Earth’s surface should be about the same as the amount of energy radiated back into space, leaving the temperature of the Earth’s surface roughly constant. However, greenhouse gases trap the heat in the atmosphere. Rising concentrations of greenhouse gases produce an increase in the average surface temperature of the Earth over time. Rising temperatures may, in turn, produce changes in precipitation patterns, storm severity, and sea level, all of which are collectively referred to as “climate change” (DOE, 2008).

Sources of CO_2 on Eglin AFB and Okaloosa County include burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and other chemical reactions which may generate small amounts. The decay of organic waste associated with municipal solid waste

landfills and agriculture releases CH₄ and N₂O into the atmosphere. Additional sources of N₂O may result from industrial activities, fossil fuel combustion, and reactions with fertilizers containing nitrogen. Fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are sometimes used as substitutes for ozone-depleting substances and are powerful synthetic greenhouse gases that are released into the atmosphere from a variety of industrial processes.

3.1.2 Existing Conditions

Air Pollutants

Eglin AFB is located in Santa Rosa, Okaloosa, and Walton Counties and is within the jurisdiction of the FDEP Northwest District. The Proposed Action is located in Okaloosa County. Therefore, for the purposes of this analysis, the region of influence (ROI) is Okaloosa County. As defined in 40 CFR Part 81.68, Okaloosa County is located in the Mobile (Alabama), Pensacola-Panama City (Florida), Southern Mississippi Interstate AQCR, which is also known as AQCR 5. In 2006, the EPA designated Florida in attainment for all criteria pollutants, based on data collected in the previous three years (FDEP, 2006).

An air emissions inventory is an estimate of total mass emissions of pollutants generated from a source or sources over a period of time, typically a year. The quantity of air pollutants is generally measured in tons or pounds per year. Emission sources are categorized as point, area, or mobile emission sources. Point sources are stationary sources which can be identified by name and operated at a fixed location. Area sources are stationary sources of emissions too small to track individually, such as gas stations, small office buildings, or open burning associated with agriculture, forest management, and land clearing activities. Mobile sources are vehicles or equipment with gasoline or diesel engines, e.g., an airplane or a ship. Mobile sources are divided into two types, on-road and non-road. On-road mobile sources are vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles. The USEPA 2002 National Emissions Inventory data for Okaloosa County are provided in **Table 3-2** and include point, area, and mobile data (USEPA, 2002).

Table 3-2 Estimated 2002 Baseline Emissions Inventory, Okaloosa County

Criteria Air Pollutant	CO (tpy)	NO _x (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	VOC (tpy)
Point Sources	28.3	49.0	7.83	5.68	11.5	79.1
Area Sources	35,379	644	7,522	3,441	998	12,356
On-road Mobile	45,439	5,715	153	113	256	4,182
Non-road Mobile	15,776	1,505	171	157	165	2,619
Total	96,622	7,913	7,854	3,717	1,431	19,236

Source: Okaloosa County data summarized from USEPA's Air Data for 2002
(<http://www.epa.gov/air/data/index.html>)

Greenhouse Gases

The FDEP has prepared a preliminary inventory of greenhouse gas emissions during the period from 1990 to 2005 (FDEP, 2008). The preliminary inventory includes greenhouse gas emissions from the following sectors:

- Energy sector (CO₂ emissions from fossil fuel combustion)
- Industrial processes
- Natural gas and oil systems
- Coal mining
- Solid waste disposal
- Domesticated animals
- Manure management
- Flooded rice fields
- Agricultural soils
- Forest management
- Burning of agricultural crop wastes
- Municipal wastewater
- CH₄ and N₂O emissions from mobile source and stationary source combustion

The estimated 2005 summary of greenhouse gas emissions for the state of Florida is presented in **Table 3-3**. The values are expressed in million metric tons of CO₂ equivalent (MMTCO₂E). A greenhouse gas emission inventory has not been completed for Eglin AFB.

Table 3-3 Estimated 2005 Summary of State of Florida Greenhouse Gas Emissions

Greenhouse Gases	CO₂ (MMTCO₂E)	CH₄ (MMTCO₂E)	N₂O (MMTCO₂E)	Fluorinated Gases (MMTCO₂E)	Total MMTCO₂E
Florida	268.65	10.23	6.45	8.33	293.66

Source: FDEP, 2008

3.2 Biological Resources

3.2.1 Definition

Biological resources include native or naturalized plants and animals and the habitats, such as wetlands, forests, grasslands, and estuaries, in which they exist. Sensitive and protected biological resources include plant and animal species listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS), the state of Florida, or species covered by the Migratory Bird Treaty Act (MBTA). Determining which species occur in an area affected by a Proposed Action can be accomplished through literature reviews and coordination with appropriate Federal and state regulatory agency representatives, resource managers, and other knowledgeable experts.

Under the ESA (16 USC 1536), an endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species likely to become an endangered species in the foreseeable future. The USFWS also maintains a list of species considered to be candidates for possible listing under the ESA. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and could warrant protection under the ESA. Under the MBTA (16 USC 703-712), migratory birds are protected throughout their range and protection includes migratory birds, parts, nests, or eggs of any such bird, or any product thereof.

The Florida Fish and Wildlife Commission (FFWC) oversees the protection and management of state-protected fauna under the Florida Endangered and Threatened Species Act (Florida Statute 372.072). Within the FAC, protection is provided to endangered species (FAC 68A-27.003), threatened species (FAC 68A-27.004), and species of special concern (FAC 68A-27.005). The Florida Department of Agriculture and Consumer Services maintains the state list of plants designated as endangered, threatened, and commercially exploited (FAC 5B-40) as defined under Florida Statute 581.185(2).

3.2.2 Existing Conditions

In order to determine occurrence and potential occurrence of state and Federally protected plant and animal species within the study area, preliminary data was collected from several sources.

- United States Geological Survey (USGS) Digital Topographic Quadrangle Maps, 7.5 minute series
- 2007 Florida Department of Transportation (FDOT) Aerial photographs
- Florida Natural Areas Inventory (FNAI) database
- USFWS and FFWC databases for listed species and critical habitat
- Eglin AFB Geographic Information Systems (GIS) database of Federally listed threatened and endangered species

Natural Communities

The Proposed Action would be located in a relatively isolated area of mixed pine and hardwoods at the northeast end of the cantonment area of Eglin main base. The soil type identified in the Proposed Action area is flat lying Lakeland Sand (0 to 5% slopes) classified as excessively drained soil with low levels of organic matter. Canopy in the Proposed Action area consists of sand pine, live oak, turkey oak, and magnolia. The understory is predominantly saw palmetto and wiregrass with other mixed species of grasses and herbs.

The primary environmental factors controlling vegetation type are soil moisture (soil type and depth to groundwater) and fire history. Fire helps maintain the ecosystem's natural vegetation. Certain plant species require fire to trigger the release of their seeds and fire also clears out the underbrush in forests allowing the native species to persist and flourish. The proximity of this

area in relation to developed areas restricts fire management activities and the suppression of all fire leads to habitat destruction and degradation over time.

Endangered Species, Threatened Species, and Species of Special Concern

According to FNAI records no Federally protected plant species are located in the area of the Proposed Action. However, the following protected animal species may be present in the local areas surrounding the Proposed Action area as shown in **Table 3-4**.

Table 3-4 Protected Animal Species possible within Proposed Action Area

<i>SCIENTIFIC NAME</i>	<i>COMMON NAME</i>	<i>FEDERAL</i>	<i>STATE</i>	<i>LIKELIHOOD OF OCCURRENCE</i>
BIRDS				
<i>Picoides borealis</i>	red-cockaded woodpecker	E	SC	Not likely to forage within 1 km
REPTILES				
<i>Drymarchon couperi</i>	eastern indigo snake	T	T	Potential
<i>Gopherus polyphemus</i>	gopher tortoise	-	T	Potential
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	-	SC	Potential

Note: E = Endangered
SC = Species of Special Concern
T = Threatened
- = not classified

Red-cockaded Woodpecker

The red-cockaded woodpecker (RCW) is “a Federally listed endangered species endemic to open, mature old growth pine ecosystems in the southeastern United States” (USAF, 2007). This small woodpecker measures eight to nine inches and is predominantly black and white. The male birds’ few red feathers are located above their ears and are difficult to spot. Unlike other southeastern woodpeckers, RCWs construct their nest cavities in live pine trees. The birds seek the heartwood found in old growth pines for cavity excavation and prefer longleaf pines due to this species’ red heart disease, which makes cavity construction easier (USAF, 2007). Suitable foraging habitat consists of mature pines with an open canopy, low densities of small pines, little or no hardwood or pine midstory, few or no overstory hardwoods, and abundant native bunchgrass and forb groundcovers. Habitat loss and fragmentation and the subsequent isolation of groups directly limits the number of potential breeding groups which results in population disruption, limitation, and decline (USFWS, 2003). Once common in the southeastern US, the

RCW population declined as timber practices and fire suppression in the late nineteenth and early twentieth century resulted in large-scale habitat loss (USAF, 2007).

Eglin is executing an approved USFWS management strategy to meet certain growth objectives of the RCW and to obtain increased mission flexibility with the federal requirements for RCW impacts (USAF, 2006). The USFWS species recovery plan for the RCW established 350 potential breeding groups as the population goal for Eglin and 9 other primary core populations. As of August 6, 2009, a total of 371 potential breeding groups have been documented. This meets Eglin's recovery goal as established in the official species recovery plan. Eglin is currently working with the USFWS to amend the RCW Component Plan to the Integrated Natural Resources Management Plan (INRMP) and associated Biological Opinion to incorporate new management operations to continue with a mission flexibility goal of 450 potential breeding groups.

The Eglin RCW foraging model maintained and operated by Eglin Natural Resources indicates that inactive cavity trees exist approximately 6 miles to the northwest of Eglin main base, but that no active trees or foraging habitat are in the vicinity of the Proposed Action area.

Gopher Tortoise

Gopher tortoises are found throughout the southeastern Coastal Plain and are widely distributed in Florida. These dark tan or gray tortoises measure 9 to 11 inches in length and can survive 40 to 60 years in the wild (FWC, 2007). The gopher tortoise is typically found in uplands with well-drained, sandy soils and is often found in pine sandhills, scrub, xeric hammock, and dry pine flatwoods as well as a variety of disturbed habitats (FWC, 2007). The gopher tortoise breeds from April through December and is less active in the colder months from December to March (FWC, 2007). The reptiles excavate long burrows that average 15 feet in length and 6.5 feet in depth (FWC, 2007). The burrows offer refuge from cold, heat, drought, fire, and predators and are utilized by more than 350 other species, including burrowing owls, eastern indigo snakes, Florida pine snakes, and gopher frogs (FWC, 2007).

Eastern Indigo Snake

The eastern indigo snake is a large, slow-moving, and docile snake. These characteristics and its size (up to 8.5 feet in length) make it a conspicuous and easy target for those who indiscriminately kill snakes on sight (USAF, 2007). The snake's body is glossy black with

iridescent blue highlights visible in the sunlight, while its chin and throat are reddish or white (<http://ecos.fws.gov>). The belly is cloudy orange and blue-gray. The snake is found in the sandhills during winter months, where it frequently uses gopher tortoise burrows and burrows of others species to over-winter. In warmer months, eastern indigo snakes frequently utilize riparian areas (USAF, 2007).

Incidental sightings of the eastern indigo snake have been documented at seventeen sites across Eglin and the last occurrence of the eastern indigo snake at Eglin AFB was reported in 1999. However, the pine ecosystem habitat across Eglin is potentially capable of supporting viable populations of this snake species and the gopher tortoise whose burrows the indigo snakes frequently utilize. (Gunzberger and Aresco, 2007).

Though no documented instances of the protected eastern indigo snake or gopher tortoise have been recorded in FNAI or Eglin Natural Resource records for the Proposed Action area, based on habitat requirements there is a moderate possibility that either of these species could exist near the project area.

3.3 Coastal Zone Management

3.3.1 Definition

The CZMA of 1972 was instituted to preserve, protect, develop, and, where possible, to restore or enhance the resources of the nation's coastal zone. The coastal zone in the Florida Panhandle and along Eglin AFB's southern boundary is rich in a variety of natural, commercial, recreational, ecological, industrial, and aesthetic resources of immediate and potential value to the present and future well-being of the nation (CZMA, 1972).

The habitat areas of the coastal zone and the fish, shellfish, other living marine resources, and wildlife therein are ecologically fragile and consequently extremely vulnerable to damage by coastal alterations. Additionally, the special natural and scenic characteristics of coastal zones in the US are being damaged by ill-planned development that threatens these values. Land uses in the coastal zone and the uses of adjacent lands which drain into the coastal zone may significantly affect the quality of coastal waters and habitats. Efforts to control coastal water pollution from land use activities must be improved (CZMA, 1972).

3.3.2 Existing Conditions

In response to the Federal CZMA, Florida enacted the Florida Coastal Management Program (FCMP) (Florida Statutes, Chapter 380, Part II) to manage, protect, and maintain the coastal zone and its resources. The geography of Florida is such that the entire state is considered to be within the coastal zone and therefore subject to oversight by the FCMP. As a result, the state has the authority to review Federal actions for consistency with the program.

The FCMP consists of a network of agencies implementing 23 Florida Statutes that protect and enhance the state's natural, cultural, and economic coastal resources. **Appendix C** includes a list of the 23 applicable Florida Statutes. The goal of the program is to coordinate local, state, and Federal agency activities using existing laws to ensure that Florida's coast is as valuable to future generations as it is today. The FCMP operates the Florida State Clearinghouse, which circulates applications for Federal activities, including Federal permits and funding, to government agencies that have statutory authority over some part of the activity (State of Florida, 2008). The office of Intergovernmental Programs serves as the Florida's single point-of-contact for the Florida State Clearinghouse program and coordinates FDEP's position on the consistency of Federal projects and Federally funded activities with departmental policies and regulations. FDEP provides comments to the Florida State Clearinghouse in accordance with EO 12372, *Intergovernmental Review of Federal Programs*; NEPA; CZMA; and other Federal laws and policies (FDEP, 2005).

Under Florida's program, permits are required for any erosion control devices, excavations, or erection of structures within the Coastal Construction Control Line (CCCL). This line extends landward from the shores along the Gulf of Mexico, excluding Choctawhatchee Bay, and its potential inland extent of erosion due to a 100-year storm event. The Proposed Action site is landward of Choctawhatchee Bay, therefore outside of the CCCL.

Federal applicants seeking a FCMP consistency determination submit their own preliminary consistency determination along with an EA to the Florida State Clearinghouse, which coordinates the review process. Consistency reviews of projects which require permits from the United States Army Corp of Engineers (USACE), US Coast Guard, or require a Florida Environmental Resource Permit are conducted during the state permit review and must include an evaluation on the project based upon Florida's 23 statutes (**Appendix C**).

3.4 Geologic Resources

3.4.1 Definition

Geologic resources consist of materials from the earth's surface and subsurface. Such resources have value, either economically, aesthetically, or as a supportive environment for living organisms. The topography, soils, stratigraphy, and mineral resources are considered relevant geologic resources for the purpose of this EA.

Topography

Topography is the term used to describe the three-dimensional shape or texture of land surface that allows for identification of specific landforms. Topographic maps include contour lines that show land surface elevations and illustrate physiographic features. The topographic and physiographic nature of northwest Florida is primarily the product of stream erosion and sea wave activity (Pratt, 1996).

Soils

Soil is the naturally occurring, unconsolidated or loose mixture of mineral and organic matter that covers land surface and is capable of supporting life. It is formed by the combined effect of physical, chemical, and biological processes on parent material. Soils are a key component of an ecosystem, often controlling the form of the ecosystem and habitat.

Geologic Stratigraphy

Stratigraphy is a branch of geology dealing with the succession and layering of rock formations and geologic units. The stratigraphy of Florida deals with surficial unconsolidated deposits (sand, gravel, silt, and clay) and consolidated sedimentary rock layers (primarily dolomite and limestone) lying deeper below the surface of the ground. The study of stratigraphy enables geologists to define the environment in which the sediments were deposited and to determine the deformational history of those sediments caused by the structural forces of plate tectonics.

Mineral Resources

Mineral resources are supplies of rocks, minerals (metallic and non-metallic), fluids, and gases extracted or mined from the earth for man's benefit. In the Florida Panhandle, potential resources include phosphate, limestone (crushed rock), sand, gravel, clay, peat, heavy minerals, oil, and natural gas.

Geologic Hazards

Specific geologic conditions may exist in some areas of Florida that present potential threats to safety, welfare, and the environment. Unstable slopes, steephead slopes, sinkholes, and to a lesser extent seismic activity may occur in Florida.

3.4.2 Existing Conditions

The approximately 35-acre tract of land planned for clearing and construction, and the 1.5 acres associated with demolition activities will comprise the ROI for Geologic Resources for this assessment.

Topography

The Proposed Action lies within the principal physiographic province of the Gulf Coastal Plain and the Florida physiographic region of the Gulf Coastal Lowlands (Randazzo and Jones, 1997). The lowlands are strongly influenced by marine and fluvial processes, with terraces or wave-cut platforms defining the general landscape. The affected tract occupies land positioned on the Talbot Terrace which generally occupies elevations from 25 to 42 ft mean sea level (msl).

Land surface associated with the 35-acres scheduled for land clearing and construction activities slopes gently to the southeast and is largely unaltered by human activity, remaining very much as depicted by the USGS topographic map (Destin Quadrangle, 1987) in **Figure 3-2**. The tract sets atop a southwest to northeast trending lobe of land with elevations ranging from greater than 25 ft msl to near 15 ft msl. Higher elevations occur in the central and northwestern portions of the site with lowest elevations occurring in the southeast portion. Relief within the 35-acre tract is clearly greatest from parcel center to the southeast with an average gradient of approximately 0.013 ft/ft.

Elevations across the general area of the Proposed Action, including the four buildings scheduled for demolition, range from greater than 50 ft msl at Building 843 to 15 ft msl within the planned Fitness Training Area. Relief is greatest in the area of Building 843 and 810, but average gradient across the ROI is approximately 0.012 ft/ft. The land surface elevation approaches sea level (0 ft msl) approximately 1,200 feet east of the 35-acre tract, near Boggy Bayou.

Soils

Lakeland sand and Foxworth sand are the only two soil types represented within the area affected by demolition, construction, and land-clearing. These soils are identified and mapped as

soil map units (USDA, 2009) and presented in **Figure 3-3**, Site Soil Units. Both soil types are common if not predominant across the Eglin Reservation.

Lakeland sand, 0-5% slopes, is the only soil type associated with the project construction site. These sands are extremely well drained and highly permeable deposits that occupy upland areas on hills, ridges, and marine terraces, where depth to restrictive features and ground water generally exceeds 80 inches. Buildings 810 and 843 occupy portions of land where Lakeland sands with 5-12% slopes are predominant.

Building 720 lies in an area where Lakeland sand with 0-5% slopes may intermix with Foxworth sand with 0-5% slopes. Foxworth soils are very similar to Lakeland soils, being very well drained and highly permeable deposits that occupy upland areas on hills, ridges, and marine terraces. Depth to the water table is generally 48 to 72 inches and restrictive features are typically greater than 80 inches from land surface.

Geologic Stratigraphy

Regional literature indicates the ROI is underlain by several geologic units of interest as presented in **Table 3-5**. In descending order they are the Pliocene-Recent Sands, the Citronelle Formation, the Intracoastal Formation/Alum Bluff Formation, the Bruce Creek Limestone, the Chattahoochee-Chickasawhay Limestone, the Bucatunna Clay, the Ocala Group Limestones, and the Lisbon Formation.

Table 3-5 Shallow Stratigraphy

Structural Top		Unit Thickness	Geologic Unit	Hydrogeologic Unit		Lithologic Descriptions
FT BLS	FT MSL	FT				
Outcrop	25	50	Pliocene-Recent Sands	Sand & Gravel Aquifer		unconsolidated body of fine to medium grained, white to gray quartz sand; occasional clay lenses and layers of organic debris; fossils include primarily mollusks
			Citronelle Formation			non-indurated, multi-colored quartz sand with discontinuous layers of gravel, clay, and limonite; typically unfossiliferous with occasional iron cement
50	-25	275	Alum Bluff Undifferentiated	Intermediate System Confining Unit		poorly consolidated clayey sand, sandy clay and shell beds, interfingering with the Intracoastal locally
			Intracoastal Formation			poorly consolidated, sandy, argillaceous, micro-fossiliferous limestone interfingering with the Alum Bluff locally
325	-300	40	Bruce Creek Limestone	Floridan Aquifer System	Upper Floridan Aquifer	white to light gray moderately indurated, granular, fossiliferous, occasionally calcarenite limestone
365	-340	360	Chattahoochee-Chickasawhay Limestone			tan, sucrosic dolomite or cream to buff fossiliferous limestone
725	-700	25	Bucatanua Clay		Bucatanua Clay Confining Unit	brown to yellow brown clay with modest quartz sand content; limestone is common accessory; sparsely fossiliferous
750	-725	325	Ocala Group Limestones		Lower Floridan Aquifer	white to light gray chalky fossiliferous limestone and tan sucrosic dolomite
1075	-1050	?	Lisbon Formation	Sub-Floridan System		cream, sandy, pyritic, glauconitic limestone and light gray clay and sand

BLS = below land surface; MSL = mean sea level; all numbers are approximate

Sources: Schmidt, 1982; Pratt, 1996

The geology of the ROI is largely influenced by two structural features, the Chattahoochee Anticline to the east and the Gulf of Mexico sedimentary basin to the west. Southern Okaloosa County is situated in the area of transition between the two, near the western edge of the anticline and eastern edge of the Gulf basin. The Chattahoochee Anticline is formed from the folding of geologic strata caused by uplifting forces beneath. The crest of the anticline lies to the east in Jackson County, resulting in formations older than Pliocene-Recent Sands gently dipping from northeast to southwest. This trend continues into the Gulf Basin due to subsidence of the same strata to the southwest of the site. The Chickasawhay Limestone dips to the southwest at an inclination of approximately 15 to 25 feet per mile as do the overlying Bruce Creek and Intracoastal Formations. A clastic wedge of sediments overlies this stratum, thinning to the east/northeast and growing relatively thicker to the west/southwest.

Within the project area, surficial sediments are Pliocene-Recent Sands and Citronelle sediments. The formation is a blanket-type deposit approximately 50 feet thick in the project area. The Pliocene-Recent Sands represent deposition primarily during glacial times when continental debris was reworked, as sea levels fluctuated. Part of the sand represents reworked Miocene and Pliocene deposits, such as the Miocene coarse clastics and the Citronelle Formation. Together, the Pliocene-Recent Sands and the Citronelle Formation make up the Sand & Gravel Aquifer

informally referred to as the “shallow aquifer” or “water table aquifer.” The Sand & Gravel Aquifer is approximately 50-feet thick in the ROI, coinciding with the thickness of the surficial sediments. The Sand & Gravel Aquifer is recharged directly by local rainfall.

The surficial sediments are underlain by the sandy clay, clayey sand, and shell beds of the Alum Bluff Group and/or the Intracoastal Formation. The ROI is situated in the vicinity of transition where the two formations interfinger as the Alum Bluff reaches its southern extent and the Intracoastal reaches its northern extent. Locally, this low permeability strata is approximately 275 feet thick and serves as an upper confining unit for the Floridan Aquifer beneath.

These low permeability sediments are underlain by a 400 foot thick sequence of carbonate formations comprised of the Bruce Creek Limestone and the Chickasawhay/Chattahoochee Limestone. This series occupies depths of approximately 325 to 725 ft below land surface (bls) where it is interrupted by an estimated 10-25 foot section of the Bucatunna Clay. This locale represents an area of transition for the Bucatunna Clay as it gradually pinches out to the east/northeast. The Ocala Group Limestone extends nearly 325 feet below the Bucatunna where it is underlain by the clayey limestone of the Lisbon Formation. Collectively, the Bruce Creek Limestone, the Chickasawhay/Chattahoochee Limestone, and the Ocala Group Limestone comprise the Floridan Aquifer, with the Bucatunna Clay dividing the System into the Upper Floridan and Lower Floridan. The Floridan Aquifer System for this portion of Okaloosa County is recharged in southern Alabama (Schmidt & Clarke, 1982) and is the primary source for public water supplies in the area.

Mineral Resources

Although not typically thought of as a mining state, Florida ranks fifth nationally in industrial mineral production (Florida Geological Survey [FGS], 2009; FGS, 2008). Resource potential in the Florida Panhandle includes phosphate, limestone, sand and gravel, clay, Fuller’s earth, peat, oil, natural gas, and heavy minerals such as ilmenite, rutile, zircon, leucoxene, staurolite, monazite, and tourmaline.

Phosphate (used in fertilizer production) and limestone (used in the crushed stone industry) are important resources in the eastern Florida Panhandle where they occur at shallow depth in commercially viable quantities. In the western portion of the panhandle, in the vicinity of Okaloosa County, neither resource is mined due to economically insignificant accumulations or

due to the availability only at great depths. Heavy minerals associated with marine sand deposits are often concentrated by wave action along coastal beaches and are not likely to exist in commercial quantities in the project area. Oil and natural gas production exists in the Florida Panhandle, but no reserves have been exploited or identified in the project area.

Sand, gravel, and clay are mined throughout the Florida Panhandle. Substantial commercial deposits are mined from the Pliocene-Recent Sands unit and the Citronelle. Quartz sand and in some instances gravel is available in large quantities from the Pliocene-Recent Sands unit and could be present in commercial quantities beneath the project site.

Geologic Hazards

With respect to geologic hazards, no faults or fault zones have been interpreted in the ROI. The nearest faults (Foshee and Pollard) are mapped in northwestern Santa Rosa County, Florida, approximately 50 miles northwest of the area of concern (Schmidt, 1982). No sinkholes (karst terrain) have been identified in the vicinity. This portion of northwest Florida is not prone to sinkhole development due to the substantial depth at which carbonate sediments occur and the thick layer of cohesive sediments that overlie them (Sinclair, 1985). The area of interest is not located in or near a seismic impact zone (Frankel, 1996). No unstable areas (such as areas with fissures, areas where the ground is prone to mass movement, or areas with highly expansive soils) have been identified in the area of the proposed improvements.

3.5 Hazardous Materials, Hazardous Waste, and Solid Waste

3.5.1 Definition

Hazardous materials are defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC Sections 9601-9675), as amended by the Superfund Amendments and Reauthorization Act (SARA) and TSCA. They are defined as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that could cause an increase in mortality, serious irreversible illness, or incapacitating reversible illness or that might pose a substantial threat to human health or the environment.

Hazardous waste is defined by the Solid Waste Disposal Act (SWDA), as amended by the RCRA, which was further amended by the Hazardous and Solid Waste Amendment (HSWA). Hazardous waste is defined as any solid, liquid, contained gaseous, semisolid waste, or any

combination of wastes that pose a substantial present or potential hazard to human health or the environment.

Special hazards are those substances that potentially pose a risk to human health, but are not regulated as contaminants under hazardous waste statutes. Included in this category are asbestos-containing materials (ACM) and lead-based paint (LBP). The presence of special hazards or controls over them might affect, or be affected by, a Proposed Action. Information on special hazards, describing their locations, quantities, and condition assists in determining the significance of a Proposed Action.

Solid waste is defined under Section 261.2 of RCRA and Chapter 62-701 FAC. Under 62-701 FAC, solid waste is defined as sludge not regulated under the CWA or CAA, garbage, rubbish, special waste or discarded material. SWDA established guidelines for solid waste collection, transport, separation, recovery, and disposal systems. RCRA amended this act by shifting the emphasis from disposal to recycling and reuse of recoverable materials.

The state of Florida has solid waste management regulations pertaining to solid waste facilities, state resource recovery and management programs, certification of resource recovery equipment, used oil and domestic sludge classification, utilization, and disposal criteria. FDEP develops and adopts rules that govern proper management of solid waste in the state but most of the responsibility for solid waste management under the law rests with local governments. Waste management is typically performed in conjunction with private enterprise under contractual agreements or is self performed. Florida solid waste management rules and regulations include the following.

- Florida Solid and Hazardous Waste Management Act of 1988 (Chapter 403 FS): Comprehensive language essentially amended Chapter 403 FS, the Environmental Control Statute, specifically Part IV, Resource Recovery and Management. Requires counties and municipalities to adequately plan and provide for efficient, environmentally acceptable solid waste management including hazardous waste, as well as promote the reduction, recycling, reuse, or treatment of solid waste. Establishes FDEP responsibilities. Defines terms that are fundamental to the topic of waste management (403.703 FS).

- Florida Solid Waste Management Facility Regulations (62-701 FAC): Establishes standards for the construction, operation, and closure of solid waste facilities as well as procedures for the handling of certain recovered or recycled materials.
- The Energy, Climate Change, and Economic Security Act of 2008 (403.7032 FS): Establishes a statewide recycling goal of 75% by the year 2020, directing the FDEP to develop programs aimed at achieving this goal.

3.5.2 Existing Conditions

Hazardous Materials

The AFI 32-7086, *Hazardous Materials Management*, establishes procedures and standards that govern management of hazardous materials throughout the USAF. It applies to all USAF personnel who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor, or track any of those activities. AFI 32-7086 Air Armament Center Supplement 1 *Civil Engineering: Hazardous Materials Management* provides base guidance on Air Force Instruction 32-7086. The Environmental Compliance Branch of Environmental Management, 96 CEG/CEVC provides technical assistance to all base activities for proper management of hazardous materials. Hazardous and toxic material procurements are currently managed in accordance with the Eglin AFB Base Pharmacy Program. The Hazardous Material Cell (HMC) is charged with operations pertaining to the Pharmacy Program on Eglin AFB.

Wastes

Air Force regulatory requirements and management of solid waste are established by AFPD 32-70, *Environmental Quality*. AFPD 32-70 requires compliance with applicable Federal, state, and local environmental laws and standards. The Eglin Air Force Base Supplement to AFI 32-7042 *Civil Engineering: Solid and Hazardous Waste Compliance* serves as the Solid Waste Management plan and applies to all agencies and organizations on Eglin AFB. According to the plan, two classifications of waste are generated; nonhazardous solid waste and hazardous waste. Both wastes are removed by a contractor for off-site disposal. In addition, recyclable materials are removed from the base by a contractor. This project is subject to Federal, state, local, and Air Force regulations, since the Proposed Action would occur on Air Force property.

Hazardous Waste

Hazardous waste management is addressed by Air Armament Center Instruction 32-7003, implementing AFRD 32-70 and AFI 32-7042. The plan provides a structure for compliance with environmental standards applicable to Hazardous Waste (HW), Special Wastes (SPW), and used petroleum products. It also establishes policies and procedures for HW management. The Environmental Compliance, 96 CEG/CEVC is responsible for lending technical assistance regarding hazardous waste. Environmental Compliance, 96 CEG/CEVC is the point of contact for the FDEP. In addition to regulatory compliance, hazardous substances and hazardous chemicals are regulated by the Emergency Planning and Community Right-to-Know Act (EPCRA) (42 USC Sections 11001-11050). Transportation of hazardous materials is regulated by the U.S. Department of Transportation (DOT) regulations within 49 CFR.

Normal operations at Eglin AFB generate hazardous wastes, as defined by the USEPA Implementing Regulations Identifying Hazardous Wastes (40 CFR Part 261). Facilities that generate more than 2,200 pounds of hazardous waste annually are regulated as a large-quantity generator. Eglin AFB is a large-quantity generator of hazardous waste under FDEP/EPA identification number FL8570024366 (USAF 96 CEG/CEV). Responsibility for proper waste management lies with the generating organization and 96 CEG/CEV. Eglin's *Hazardous Waste Management Plan* (AACI 32-7003) ensures the proper handling, accumulation, and disposal of all hazardous/special wastes generated on base.

Emergency response to spills or releases of hazardous materials is governed by the requirements of CERCLA, EO 12580, *Superfund Implementation*, and EPCRA. Under CERCLA, the resident agencies at Eglin AFB and contractors are responsible for reporting releases of reportable quantities to the National Response Center within 24 hours.

Solid Wastes

For solid waste, AFRD 32-70 is implemented by AFI 32-7042. AFI 32-7042 requires that each installation have a solid waste management program that includes a solid waste management plan addressing the handling, storage, collection, disposal, and reporting of solid waste. AFI 32-7080 contains solid waste requirements for preventing pollution through source reduction, resource recovery, and recycling. Environmental Compliance, 96 CEG/CEVC directs the solid

waste management program, implementing a supplement to AFI 32-7042 as the Eglin AFB *Solid Waste Management Plan*.

Existing landfill capacity available to support the Proposed Action is basic to the evaluation of solid waste. Alternative means of waste disposal are also available and demand evaluation. These include recycling/recovery of materials, waste-to-energy programs, and incineration.

For regulatory purposes the FDEP issues permits and classifies landfills in accordance with the material types and volumes processed. Landfill types potentially affected by the Proposed Action include Class I, Construction and Demolition (C&D) debris, and Land Clearing Debris (LCD) facilities. Class I facilities are open to receive Class I solid waste, which includes putrescible and household waste (municipal waste), providing it is not hazardous or prohibited from disposal in a lined landfill under Rule 62-701.300 FAC. C&D facilities are permitted to receive materials generated by large-scale construction, demolition, development, and land clearing projects (403.703 FS). LCD facilities generally handle only land clearing debris, as would be generated by the clearing and grubbing component of the Proposed Action. For the purposes of this assessment, Okaloosa County will be considered the ROI.

There are no active Class I facilities in the ROI but there are two active transfer stations. The transfer stations transport Class I solid waste to a facility outside the ROI. There are currently five active C&D facilities and one LCD facility operating within Okaloosa County. Many of the C&D and LCD sites in the ROI are expected to have from several years to tens of years of capacity remaining.

Stored Fuel

There are 205 AST's and 80 underground storage tanks (UST) on Eglin AFB with fuel storage capacities ranging from 55 to 1.1 million gallons each, with total fuel storage capacity exceeding 7.3 million gallons. Stored fuels are primarily JP-8 aviation fuel and diesel fuel with fewer storage units utilized for multi-fuel dispensing, motor oil, and used oil. Eglin AFB's *Spill Prevention, Control, and Countermeasure Plan* (SPCC) addresses control and clean-up of fuel and lubricant spills. The plan also addresses the numerous portable storage containers, tank trucks, emergency generators, and transformers capable of fuel and oil storage on the base.

Asbestos

Asbestos is regulated by 40 CFR Part 61, FDEP, EO 12088, *Federal Compliance with Pollution Control Standards*, and AFI 32-1052, *Facility Asbestos Management*.

Eglin AFB has implemented AFI 32-1052 by Eglin Air Force Base (EAFB) Plan 32-3, *Asbestos Management Plan*. Current base policy is to manage or abate ACM in active facilities and remove sources of friable asbestos prior to facility demolition. ACM is abated when there is a potential for an asbestos fiber release that would affect the environment or human health. The 2007 *Asbestos Management Plan* identifies policies and procedures for facility management, health hazard controls, and ACM removal/disposal. The plan provides for an ongoing asbestos survey intended to identify facilities containing ACM. In the event that an asbestos inspection has not yet been performed on a specific facility, the presence of ACM must be established by an accredited inspector prior to demolition. ACM abatement, removal and disposal activities are performed in accordance with applicable Federal, state, and AF regulations.

Lead-based Paint

Air Force Policy and Guidance on Lead Based Paint in Facilities (USAF, 1993) ensures that LBP hazards are avoided or abated during building modifications. Eglin AFB manages LBP in accordance with the June 2007 EAFB Plan 32-4, *Lead-Based Paint Management Plan*. The existing buildings and structures proposed for demolition may contain LBP. Buildings constructed before 1985 potentially contain LBP, whereas buildings constructed after 1985 are assumed to be LBP-free and are exempt from testing. In accordance with Plan 32-4, buildings should be surveyed and tested prior to demolition. Proper procedure for disposal is determined based on the test results. LBP abatement and disposal is accomplished in accordance with applicable Federal, state, and AF regulations prior to demolition or renovation activities.

Environmental Cleanup Program

The Environmental Restoration Program (ERP), formerly the Installation Restoration Program (IRP), was initiated by the DoD in 1981 to investigate and mitigate environmental contamination at DoD facilities resulting from past management or disposal of potentially hazardous materials. The ERP was initiated in response to CERCLA, which was passed in 1980. The ERP requires each DoD installation to identify, investigate, and clean-up historical hazardous waste disposal or release sites.

FDEP oversees the RCRA corrective action program under HSWA in the state of Florida and has issued a RCRA Part B Permit to Eglin AFB. The current (2007) issue contains regulatory requirements pertaining to RCRA cleanup as well as requirements of HSWA in order to ensure regulatory compliance. FDEP also oversees the petroleum cleanup program under FAC 62-770. Eglin AFB and FDEP entered into a petroleum, oil, and lubricant cleanup agreement (POL) in 1995. The agreement is intended to ensure proper investigation and remediation of discharges in accordance with FAC 62-770. In 1999, a memorandum of agreement (MOA) was entered into by Eglin AFB, FDEP, and the USEPA in order to lay groundwork for a Land Use Control (LUC) management plan which currently serves as the Eglin AFB *Land Use Control Assurance Plan* (LUCAP). LUC's are restrictions put into place to protect human health and the environment by limiting exposure to contaminated media. LUC's can include access controls, prohibitive directives, or institutional controls.

There are currently 49 active ERP sites, and 84 sites closed with no further action (NFA) approval. Of the 49 active sites:

- 25 are managed with LUC's and ground water monitoring
- Six are approved for NFA but managed with internal LUC's
- One is in process of application for NFA
- One is being monitored for natural attenuation
- 12 are being actively remediated
- Four are managed by Okaloosa County

Point of Interest (POI) 519 is a new site and has not yet been formally investigated. A preliminary investigation/site assessment is planned for FY11.

The Military Munitions Response Program (MMRP) was formalized in September 2001 when the DoD published new management guidance for ERPs. The MMRP addresses environmental health and safety hazards associated with unexploded ordnance, discarded military munitions, and munitions constituents on current and former military sites as a complement to the ERP. There were initially eight Munitions Response Areas (MRA) identified in the Eglin AFB MMRP. Three of these are closed with NFA consent and five remain active sites included in a

Comprehensive Site Evaluation (CSE) Phase II/Removal Action. There are no MMRP sites on or adjacent to Proposed Action areas.

ERP Site POI 519, the Base Auto Hobby Shop, is located 200 feet east to southeast of the proposed fitness center at the end of Foster Road. Construction staging and storage areas would be sited to lessen impacts to available habitat in the area and not impede pending site investigation and potential remedial action activity at POI 519. Placement of lay-down yards and access roads would need to be coordinated with 96 CEG/CEVSN and 96 CEG/CEVR, respectively.

3.6 Noise

3.6.1 Definition

Noise and sound share the same physical aspects, but noise is considered a disturbance while sound is defined as an auditory effect. The meaning of noise for this analysis is undesirable sound that interferes with verbal communication and hearing or is otherwise annoying (unwanted sound). Human response to increased noise levels varies according to the source type, characteristics of the noise source, distance between source and receptor, receptor sensitivity, and time of day.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). Sound level measurements used to characterize sound levels that can be sensed by the human ear are designated “A-weighted” (dBA). A-weighted denotes the adjustment of the frequency content of a noise event to represent the way in which the average human ear responds to the noise event.

Noise levels used to characterize community noise effects from such activities as aircraft or building construction are measured in the day-night average, A-weighted sound level (DNL). The DNL metric accounts for the greater annoyance of noise during nighttime hours and is calculated by averaging hourly sound levels for a 24-hour period and applying a 10-dB penalty for operations conducted between 10:00 PM and 7:00 AM.

Noise may also be described utilizing the equivalent sound level (LEQ) during a specified period of time. When a noise varies over time, the LEQ is the equivalent continuous sound which

would contain the same sound energy as the time varying sound. In generic terms, the LEQ can be thought of as the average sound level during a specified period of time.

Most people are exposed to sound levels of DNL 50 to 55 dBA or higher on a daily basis. Noise levels in residential areas vary depending on the housing density and location. As shown in **Table 3-6**, a normal suburban area is about 55 dBA, which increases to 60 dBA for an urban residential area and 80 dBA in the downtown section of a city.

Table 3-6 Typical Outdoor Noise Levels

Day-Night Noise Level	Location
50 dBA	Residential area in a small town or quiet suburban area
55 dBA	Suburban residential area
60 dBA	Urban residential area
65 dBA	Noisy urban residential area
70 dBA	Very noisy urban residential area
80 dBA	City noise (downtown of major metropolitan area)
88 dBA	3rd floor apartment in a major city next to a freeway

Source: Federal Highway Administration, 1980

In June 1980, the Federal Interagency Committee on Urban Noise (FICUN) published *Noise Fundamentals Training Document Highway Noise Measurement and Guidelines for Considering Noise in Land Use Planning and Control* (FICUN, 1980) relating DNL values to compatible land uses. Most Federal agencies have identified 65 dB DNL as a criterion that protects those most affected by noise and that can often be achieved on a practical basis.

3.6.2 Existing Conditions

The primary sources of noise on Eglin AFB are airfield operations, industrial activities, and vehicular traffic. A noise study was conducted at Eglin AFB in 2006 to construct noise contours for airfield operations at the installation (Eglin, 2008). According to the 2006 noise contour GIS Layers, the new construction and demolition areas for the Proposed Action lie outside the 65 dBA contour (the lowest level for which contours were established).

The noise guidelines established for land use planning at Eglin AFB are essentially the same as those published in the June 1980 FICUN publications. Based on these guidelines, the maximum acceptable noise level for most residential land uses is considered to be 65 dBA DNL and acceptable levels for recreational areas range from 65-75 dBA.

3.7 Safety

3.7.1 Definition

A safe environment is one in which there is an absence of or an optimally reduced potential for death, serious bodily injury or illness, or property damage. Human health and safety addresses (1) workers' health and safety during demolition activities and facilities construction and (2) public safety during demolition and construction activities and during subsequent operations of those facilities.

Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of on-site military and civilian workers are safeguarded by numerous DoD and USAF regulations designed to comply with standards issued by the OSHA and USEPA. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

3.7.2 Existing Conditions

Existing safety concerns for the Proposed Action include construction safety and potential unexploded ordnance (UXO) due to Eglin's long history of weaponry development and testing.

All contractors performing construction activities are responsible for following ground safety and OSHA regulations and are required to conduct construction activities in a manner that does not pose a risk to workers or installation personnel. Industrial hygiene programs address exposure to hazardous materials, use of personal protective equipment, and use and availability of Material Safety Data Sheets. Industrial hygiene is the responsibility of contractors and USAF personnel, as applicable. Contractor responsibilities are to review potentially hazardous workplaces; to monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous material), physical (e.g., noise propagation), and biological (e.g., wildlife) agents; to recommend and evaluate controls (e.g., ventilation, respirators) to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures or engaged in hazardous waste work.

3.8 Transportation

3.8.1 Definition

Transportation is defined as the movement of goods and people from place to place utilizing an established system of roadways and highways. Integral to the transportation process is the management of the transportation system. Modern transportation management techniques may involve using strategies such as ridesharing, park-and-ride facilities, and staggered work hours. These types of programs improve the efficiency of existing roadways by changing the traffic demand pattern. Other management options include integrated protocols and computerized intelligent transportation systems such as traffic signalization improvements and geometric intersection improvements. These techniques improve system capacity without physical expansion or behavioral changes.

3.8.2 Existing Conditions

Access to Eglin main base is provided by four gates: the West Gate at Eglin Boulevard and Lewis Turner Boulevard (State Hwy 189); the East Gate at Eglin Boulevard and South John Sims Parkway (State Hwy 20/397); the Northwest Gate at Nomad Way and State Highway 85; and the Commercial Gate at West College Boulevard and State Highway 85. The majority of people access the base using the East, West, or Northwest Gates.

Eglin security personnel manually control traffic at each entrance to the base while checking appropriate identification for each driver. During times of high traffic demand Eglin provides increased manning at each gate to allow for faster processing of incoming traffic. Additional lanes are also opened for outbound traffic during times of high demand. Traffic on-base is managed through a series of stop signs, yield signs, and traffic signals. These signals operate on variable timing schedules and/or in-road sensors.

The primary road running southwest to northeast on Eglin AFB is Eglin Boulevard. Major arteries across the base include Hatchee Road near the west end; Nomad Way near the center, and 7th Street, 8th Street, and a 3-way signalized intersection at Eglin Boulevard and Foster Road near the east end. The 3-way signal at the intersection of Eglin Boulevard and Foster Road controls the flow of traffic into the Proposed Action area (**Figure 2-1**).

Level of Service (LOS) is a measure of a roadway's operational characteristics and reflects the amount of congestion and ease of use of a roadway segment by individual drivers. Adopted LOS is a minimum standard established for roadway sections. Peak Hour LOS levels below the adopted LOS would indicate roadway conditions are not meeting the predetermined level of acceptance. Recent LOS status and adopted LOS are given in **Table 3-7** below.

Table 3-7 Recent LOS Conditions

Roadway Segment	2006 Peak Hour LOS	Adopted LOS
7 th Street (Daytona Road to Eglin Boulevard)	C	E
8 th Street (Daytona Road to Eglin Boulevard)	C	E
Eglin Boulevard (7 th Street to East Gate)	C	D

Source –*Proposed Implementation of the Base Realignment and Closure 2005 Decisions and Related Actions at Eglin AFB, FL*. Final Environmental Impact Statement, October 2008

3.9 Water Resources

3.9.1 Definition

Water resources are those waters both above and below the surface of the Earth that are potentially useful to humans and the environment. The CWA of 1977 is the primary Federal law that protects the nation's water resources, including lakes, rivers, aquifers, and coastal areas. Water resources relevant to the project corridor are drainage basins, floodplains, stormwater, surface water, wetlands, and ground water.

Drainage Basin

A drainage basin is a specific tract of land that gathers water originating as precipitation and directs it to a particular stream channel or system of channels or to a lake, reservoir, or other body of water. The topography and geology of the land are the key features that define and divide these catchment areas, whose acreage increases in hierarchal form as smaller sub-basins join and contribute water to terrain at diminishing elevations.

Floodplain

Floodplains are lands bordering rivers and streams that normally are dry but are covered with water during floods. They occur in both inland and coastal areas. Risk of flooding typically hinges on local topography, the frequency of precipitation events, size of the watershed above the floodplain, and, in the case of coastal areas, storm surge intensity. The direct function of a floodplain is to absorb water and energy from storms. Indirect benefits are ground water recharge from stormwater absorption, nutrient cycling, waste disposal, carbon sequestration, wildlife habitat, vegetative diversity, and aesthetic qualities.

Stormwater

Stormwater is surface water generated by precipitation events that may percolate into permeable surficial sediments or flow across the top of impervious or saturated surficial areas, a condition known as runoff. Excessive runoff may degrade surface water resources by increasing sediment loads or foreign contaminants in natural systems to undesirable levels. Construction projects often increase the percentage of impervious area in a drainage system, thereby increasing runoff. Therefore, controlling surface water runoff is an integral part of any large construction project. During the design phase for future construction, in accordance with United Facilities Criteria (UFC) 3-210-1 *Low Impact Development* (LID), specific stormwater management practices would be incorporated into building and site design and landscape plans. LID is a stormwater management strategy to help reduce the rate of runoff, reduce water pollution, and increase localized ground water recharge by emulating natural drainage patterns and hydrology. Additionally, in accordance with FAC 62-621, erosion and sediment control best management practices (BMPs) such as silt fencing, sediment traps, application of water sprays, and revegetation of disturbed areas would be implemented to minimize the potential water resource impacts during active construction. Stormwater directly and/or indirectly affects surface water, wetlands, and ground water and is therefore discussed as applicable in those sections.

Surface water

Surface water is water collected on the ground. It is any body of water at land's surface and includes natural features such as wetlands, swamps, streams, rivers, ponds, lakes, marshes, bayous, and oceans. Man-made surface waters include impoundments, canals, drainage ditches, and stormwater retention basins.

Wetlands

Wetlands are transitional areas of land between well-drained uplands and permanently flooded or aquatic systems. They include swamps, marshes, and bogs and are found in both coastal and inland settings. Their soils are typically hydric, and the water table is commonly at or near land surface for much of the year. Wetlands filter water to remove nutrients, contaminants, and sediment, thereby improving water quality. They recharge water supplies, reduce risk of flood because of storage capacity, and provide important habitat for fish and wildlife.

Ground Water

Ground water is classically defined as subsurface water that occurs beneath the ground surface in soils and geologic formations that are fully saturated (i.e., the pore spaces in the subsurface materials are completely filled with water). It is part of the hydrologic cycle, originating as precipitation that infiltrates or seeps into the subsurface and then moves toward surface water bodies, where it discharges to complete the hydrologic cycle.

3.9.2 Existing Conditions

Drainage Basins

The Proposed Action lies completely within the Choctawhatchee Bay Cataloguing Unit and the Boggy Bayou Sub-basin as depicted in **Figure 3-5** and **Table 3-8** Hydrologic Units and Codes. The Boggy Bayou Sub-basin encompasses 7.6 square miles or 4,892 acres and drains sequentially to Boggy Bayou, Choctawhatchee Bay, and the Gulf of Mexico. The impacted area represents nearly 0.75% of the total sub-basin area. Potential impacts would be limited to the Boggy Bayou sub-basin, the ROI for this resource.

Table 3-8 Hydrologic Units and Codes

Region	Subregion	Accounting Unit	Cataloguing Unit	Florida Sub-basin	Relationship to Sub-basins
03 South Atlantic - Gulf	0314 Choctaw- hatchee - Escambia 15,000 sq. mi.	031401 Florida Panhandle Coastal 6,060 sq. mi.	03140102 Choctawhatchee Bay 699 sq. mi.	Boggy Bayou 7.6 sq. mi.	100% of the Proposed Action coincides with the Boggy Bayou Sub-basin. The area impacted by the Proposed Action represents nearly 0.75% of the total Sub-basin area.

Sources: Seaber, 1987; FDEP, 1998

Stormwater management is inherently associated with the local sub-basin as it both affects and is affected by water movement through the basin. Eglin AFB holds a Multi-Sector General Permit

issued by FDEP covering stormwater discharges from across the base. Eglin's SWPPP outlines site-specific stormwater management programs to meet standard requirements.

Stormwater in the industrial section of Eglin AFB is managed by way of 19 identifiable watersheds. Stormwater is collected within each watershed by a system of drop inlets, storm sewers, and open ditches and discharged to designated water bodies through well defined outfalls. The Proposed Action is associated with Watershed Numbers 12 and 14 and designated Receiving Bodies, Weekley Pond and Weekley Bayou, respectively. Watershed Number 12 encompasses approximately 195 acres on Eglin AFB. Watershed Number 14 encompasses nearly 220 acres within Eglin's boundaries and 264 acres outside Eglin's boundaries.

Floodplains

The Federal Emergency Management Agency (FEMA) has divided flood zone designations into four categories: moderate to low risk, high risk, high risk – coastal, and undetermined areas (FEMA, 2010). Each designation is further subdivided as summarized in **Table 3-9** below.

Table 3-9 FEMA Floodplain Designations

Risk Area	Zone	Description
Moderate to Low Risk	B, C, and X	Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.
High Risk	A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
	AE, AI-A30	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
	AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
	AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
	AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
	A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
High Risk - Coastal Areas	V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
	VE, VI - 30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
Undetermined Risk Areas	D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

FEMA (on the web)

All acreage associated with the Proposed Action is located within Zone X at elevations from 15 to 50 ft msl. The nearest 100-year floodplain is associated with Boggy Bayou at elevations generally below 5 ft msl (**Figure 3-4**); therefore the Proposed Action is well outside the 100-year floodplain.

The increased risk of hazard in floodplains is an important consideration in project siting. In cases where construction in a floodplain is unavoidable, the action should conform to applicable floodplain protection standards, and accepted flood-proofing and protection measures should be applied to the construction. EO 11988, *Floodplain Management* requires that any proposed construction project in a floodplain must be justified through the development of a FONPA signed by Headquarters Air Force Materiel Command (HQ AFMC). Additionally, in order to develop floodplains, the agency must comply with the procedures and practices outlined in EO 11988, 44 CFR 9.6, AFI 32-7064 and 32 CFR 989.

Surface Water

Surface waters within the ROI include Boggy Bayou and its tributaries within the Boggy Bayou sub-basin. Most notable of the tributaries near the site are Toms Bayou, situated 0.6 miles upstream to the north, and Weekley Pond and Weekley Bayou, 0.3 miles downgradient to the south. Weekley Pond and Weekley Bayou are the designated Receiving Bodies for stormwater runoff from Watersheds 12 and 14 as discussed in the Drainage Basins section above.

The state of Florida classifies surface waters as Class I (potable), Class II (shellfish propagation and harvesting areas), Class III (areas of recreational use and propagation and for maintenance of healthy and well-balanced fish and wildlife populations), Class IV (agricultural water supply), and Class V (bodies of water used for navigation, utility, and industrial use). The water classifications are arranged in order of degree of protection, Class I having the most stringent protection and Class V the least. All surface waters in the state are considered Class III unless otherwise identified in FAC 62-302.400. Boggy Bayou, Toms Bayou, and Weekley Bayou are all classified as Class III surface waters of the state of Florida.

Wetlands

EO 11990, *Protection of Wetlands*, directs agencies to consider alternatives to avoid adverse impacts and incompatible development in wetlands. Federal agencies are to avoid new construction in wetlands, unless the agency finds there is no practicable alternative to

construction in the wetland, and the proposed construction incorporates all possible measures to limit harm to the wetland. Agencies should use economic and environmental data, agency mission statements, and any other pertinent information when deciding whether or not to build in wetlands. Any development in wetlands would require justification through development of a FONPA signed by HQ AFMC. Additionally, if Proposed Actions are in wetlands, the agency must comply with procedures and practices outlined in EO 11990, 44 CFR 9.6, AFI 32-7064, and 32 CFR 989.

No wetlands have been identified or mapped in association with the Proposed Action, the existing structures scheduled for demolition, or the 35-acre tract identified for clearing and construction (**Figure 3-4**). The nearest wetlands identified (National Wetlands Inventory) are associated with several bayous discussed previously in Section 3.6.2, Surface Water.

Ground Water

Ground water resources in southern Okaloosa County are the Sand & Gravel Aquifer and the Upper Floridan Aquifer (Floridan Aquifer). The general area encompassing all affected land parcels will comprise the ROI for this resource. The Sand & Gravel Aquifer occupies surficial sediments, extending from land surface to approximately 50 feet bls in the immediate vicinity of the 35-acre tract and to 100 feet bls near Building 843. In the ROI, the Upper Floridan is a 400-foot thick sequence of limestone from depths of 325 to 725 feet bls. For a more in-depth discussion of the relationship between ground water resources and the regional geology/stratigraphy, refer to **Section 3.4.2 Existing Conditions, Geologic Stratigraphy**.

Historically, since the late 1930s and 1940s most of the water demands for coastal population centers in Okaloosa County were met by pumping ground water from the Floridan Aquifer. Ground water remains effectively the only source of potable water in Okaloosa County, although long-term studies do consider the potential of surface water sources.

Excessive pumping from the Floridan Aquifer over the course of decades resulted in a severe drop in the Floridan's potentiometric level (the level to which water would rise in a well penetrating the Floridan Aquifer). The potentiometric level had dropped some 150 feet from pre-development levels in the Fort Walton Beach area and approximately 70 feet from pre-development levels in Crestview and Milton (NFWFMD, 2006). The extensive decline in water levels along northwest Florida's populated coastal areas lead to increased regulation of the

Floridan Aquifer's ground water supplies and prompted the NFWMD to designate much of the Panhandle as an Area of Special Concern (ASC). ASC status is reserved for areas with an identified water supply problem or areas considered susceptible to development of future problems. Within this ASC, coastal Okaloosa and neighboring Santa Rosa and Walton counties are further identified as a Water Resource Caution Area (WRCA). Permitting requests in a WRCA are subjected to more rigorous scrutiny to ensure that the proposed withdrawals do not result in unacceptable impacts to the resource. Water use permits granted within a WRCA contain provisions requiring additional reporting, implementation of water conservation measures, improvement of water use efficiency, a requirement to evaluate the feasibility of employing reclaimed water for reuse, and the prohibition of non-potable use of the Floridan Aquifer.

Currently, ground water is drawn from both the Surficial and Floridan Aquifers in order to meet Okaloosa County's water budget of nearly 68 million gallons per day (mgd) (NFWMD *Water Resources Assessment* 08-02, 2008). Public supply wells in the county are typically located inland, operated by utility companies, and draw from the Floridan Aquifer. These public supply wells provide nearly 45 mgd of fresh potable water to the county, including coastal communities. This practice of establishing well fields inland has given some relief to the Floridan Aquifer cone of depression and salt water intrusion issues that had developed along the coast.

The Floridan Aquifer is recharged by rainfall and surface water originating in southern Alabama and discharges to the Gulf of Mexico or is withdrawn by pumping for consumptive use. It is classified by the state of Florida as "G-II", meaning it is designated for potable use and comes from an aquifer having total dissolved solids content of less than 10,000 milligrams per liter (FAC 62-520.410). Water from this source is of excellent quality and of sufficient quantities to provide for local needs. Additionally, water quality within the Floridan Aquifer is well protected from anthropogenic impacts by the confining layer above it. These beneficial characteristics of the Floridan Aquifer provide distinct advantages over the Sand & Gravel Aquifer as a potable water source in Okaloosa County.

The Sand & Gravel Aquifer is recharged by local rainfall percolating through the sediments to the water table. Discharge from the aquifer is to surface water bodies intersecting the aquifer or pumping activities. Although not utilized, water from the Sand and Gravel Aquifer is of

sufficient quality for drinking and generally meets State and Federal drinking water quality standards and is classified by the state of Florida as “G-II”. Some common issues related to water from the Sand & Gravel Aquifer include; concentrations of hydrogen sulfide high enough to be corrosive and cause objectionable odor; iron content is commonly high; and the water is characteristically acidic, with pH frequently as low as 4 to 5 standard units (Hayes, 1983). The shallow and unconfined nature of the Sand & Gravel Aquifer makes it more vulnerable to contamination and anthropogenic impacts than the Floridan Aquifer. The aquifer is commonly utilized for irrigation and other non-potable uses.

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4 ENVIRONMENTAL CONSEQUENCES

This section presents the analysis of the potential environmental consequences of the Proposed Action on the topics presented in **Section 3.0**. The general approach followed in this section is to describe the criteria for determining the significance of the impacts under each resource area and then provide a discussion of the potential impacts from the Proposed Action and the No-Action Alternative. The criteria for determining significance for most impacts were obtained from Federal, state, or local agency guidelines and/or requirements or legislative criteria. The significance of an impact is measured in terms of its intensity and context. Intensity refers to the severity of the impact, which might be beneficial or adverse. The significance of impacts may also depend on the degree of their being controversial or posing highly uncertain, unique, or unknown risks. Significance can also be found where an action sets a precedent for future actions having significant impacts as well as in cases involving cumulative impacts.

4.1 Air Quality

Impacts from proposed Federal actions on local and regional air quality conditions are determined by the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. Specifically, the impact in NAAQS attainment areas would be considered major if the net increase in pollutant emissions from the Federal action would result in any one of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Represent an increase of ten percent or more in an affected ROI emissions inventory
- Exceed any evaluation criteria established by a SIP

As discussed in **Section 3.1.2**, Okaloosa County and Eglin AFB are in attainment for all criteria pollutants. Therefore, the General Conformity Rule requirements are not applicable. Additionally, neither Okaloosa County nor Eglin AFB is within 10 kilometers of a Class I area; therefore, the PSD regulations do not apply.

4.1.1 Proposed Action

4.1.1.1 Direct and Indirect Impacts

Air Pollutants

The Proposed Action would generate temporary air pollutant emissions as a result of demolishing Buildings 719, 720, 810, and 843 and during land clearing for construction of the new facility and parking area. Fugitive dust from ground-disturbing activities, combusive emissions from construction equipment, and emissions from asphalt paving operations would be generated during the construction and demolition activities. Fugitive dust contains total suspended particulates, PM_{2.5} and PM₁₀. Fugitive dust would be generated from activities associated with clearing, grading, cut and fill operations, and from vehicular traffic moving over the disturbed site. These emissions would be greatest during the initial site preparation activities and would vary from day to day, depending on the construction phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity.

Fugitive dust emissions for various construction activities were calculated using emissions factors and assumptions published in USEPA's AP-42 Section 11.9 dated October 1998 and Section 13.2 dated December 2003. These estimates assume that 230 working days are available per year for construction (accounting for weekends, weather, and holidays). The predominant soil type across the Proposed Action area is classified as excessively drained and applicable dust control measures would need to be adapted accordingly. The USEPA estimates that the effects of fugitive dust from construction activities would be reduced considerably with an effective watering program. Watering the disturbed area of the construction site twice per day with approximately 3,500 gallons per acre per day would reduce total suspended particulate emissions as much as 50% (USEPA, 1995).

In addition to fugitive dust emissions, temporary emissions of criteria pollutants as combustion products and evaporative emissions from asphalt paving operations would be generated from roadway improvements. The emissions factors and estimates used in this assessment were based on the Sacramento Metropolitan Air Quality Management District (SMAQMD) *Guide to Air Quality Assessment*, July 2004.

The estimated project durations and affected project areas that would be disturbed as part of the Proposed Action, as presented in **Section 2.1** were used to estimate fugitive dust and all other criteria pollutant emissions. Detailed calculations and the assumptions used to estimate the air quality emissions from construction activities are presented in **Appendix E**. The estimated construction and demolition emissions for the Proposed Action are presented in **Table 4-1**.

Table 4-1 Estimated Construction Emissions for the Proposed Action

Description	CO (tpy)	NO _x (tpy)	PM ₁₀ (tpy)	SO ₂ (tpy)	VOC (tpy)
FTFA041202 Construction and Demolition	10.819	9.247	47.688	0.211	1.688
ROI Emissions	96,613	7,914	7,854	96,613	24,349
Percentage of ROI Emissions	0.01120%	0.1168%	0.6072%	0.01472%	0.00693%

As shown in **Table 4-1**, the Proposed Action would generate emissions well below 10% of the emissions inventory for the ROI. In addition, the emissions would be short-term. Therefore, the implementation of the Proposed Action would not result in an adverse impact on regional or local air quality.

Greenhouse Gases

Greenhouse gas inventories are compiled on a larger scale than criteria pollutants. Often criteria pollutants can be compiled at a county level, whereas greenhouse gas inventories are tracked at state, regional, and national levels. The estimated 2005 summary of greenhouse gas emissions for state of Florida was presented previously in **Table 3-3**.

Under the Proposed Action, greenhouse gas emissions would result from asphalt paving activities for the associated parking areas. The emission factor for asphalt paving used in this assessment is based on pavement emissions factors established by the King County, Washington, Department of Environmental Services (King County, 2007). The emission factor is an embodied factor, which means it includes emissions from the manufacture of the paving materials, paving equipment, and maintenance of the pavement over its expected life cycle.

The affected project area of the Proposed Action, as presented in **Section 2.1**, was used to estimate greenhouse gas emissions. The estimated greenhouse gas emissions from construction of the Proposed Action are presented in **Table 4-2**.

Table 4-2 Estimated Greenhouse Emissions for the Proposed Action

Description	Pavement area (acres)	Pavement area (sq ft)	MMTCO₂E per thousand sq ft	MMTCO₂E
Parking Area	0.6	27,090	0.00005	0.002621
Florida				293.66
Percentage of ROI Emissions				0.000005%

4.1.1.2 Cumulative Impacts

Impacts on air quality due to construction would not be long-term and only minor adverse cumulative impacts would be expected from construction of the Proposed Action in combination with other actions potentially occurring elsewhere on Eglin main base, as any effects would be short-term and localized. The long-term use of the Fitness Center and Training Area would have negligible effects on regional air quality and would contribute negligibly to State's greenhouse gas inventory. The overall contribution to regional air impacts from operation of the Proposed Action would be minor. Only minor adverse cumulative impacts on air quality would be expected.

4.1.2 No-Action Alternative

4.1.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no new construction. Using this alternative air quality conditions would remain the same as described in **Section 3.1.2**.

4.1.2.2 Cumulative Impacts

The No-Action Alternative would result in no new construction and thus no construction related emissions would occur. Continued use of the current facilities would have negligible effects on regional air quality and would contribute negligibly to State's greenhouse gas inventory. The No-Action Alternative would result in a minor adverse cumulative impact on air quality.

4.2 Biological Resources

Evaluation criteria for the importance of impacts on biological resources are based on the following:

- The importance (legal, commercial, recreational, ecological, or scientific) of the resource
- The proportion of the resource that would be affected relative to its occurrence in the region
- The sensitivity of the resource that would be affected relative to its occurrence in the region
- The duration of the ecological ramifications
- Potential for reduction in population size or distribution in a species of high concern

4.2.1 Proposed Action

4.2.1.1 Direct and Indirect Impacts

The Proposed Action would involve demolition, land-clearing, and construction. Approximately 35-acres of wooded habitat along the edge of previously developed areas would be cleared to construct the Fitness Center and Fitness Training Area. A summary of the potentially affected protected animal species, their classification, and the potential effects is provided in **Table 4-3**.

Table 4-3 Potentially Affected Species

Protected Species Name	Federal Status	State Status	Potential Effects from Proposed Action
ANIMALS			
red-cockaded woodpecker (<i>Picoides borealis</i>)	E	SC	None expected to be present or to utilize area for foraging. Contractor familiarization No long-term adverse effect.
eastern indigo snake (<i>Drymarchon couperi</i>)	T	T	Potential habitat/foraging area may be affected. Surveys, signage, and contractor familiarization would be implemented to ensure no long-term adverse effect.
gopher tortoise (<i>Gopherus polyphemus</i>)	-	T	Potential habitat/foraging area may be affected. Surveys, gopher tortoise relocation, and contractor familiarization would be implemented to ensure no long-term adverse effect.

Notes: E = Endangered
T = Threatened
SC = Species of Special Concern
- = not classified

Direct impacts from ground disturbance were evaluated by identifying the types and locations of potential ground-disturbing activities regarding existing biological resources. None of the Proposed Action construction or demolition projects would take place in or near areas of protected vegetation or in areas of sensitive species. Birds, mammals, or reptiles may visit the proposed construction or demolition areas, but are more likely to spend the majority of their time in other undeveloped portions of Eglin or the surrounding community. Species in the surrounding areas may be affected by noise disturbance during times of active construction. However, construction noise is intermittent and relatively short-term. It would be expected that any wildlife affected by construction noise disturbance would return to their normal routine once construction has ceased.

Project design includes: practical erosion and sediment control plans; SWPPPs; and Environmental Resource Permits. These measures are designed to protect water quality and to minimize erosion, sedimentation, and siltation by requiring the use of effective BMPs and applicable innovative technologies. These measures include:

- silt fencing
- sand bags
- sediment traps
- sediment basins
- synthetic bales

BMPs would be implemented as necessary to help ensure no adverse effect is caused by erosion, sedimentation, or siltation associated with the Proposed Action.

Species-specific surveys of the project area conducted prior to commencement of any construction activities would help ensure against any adverse impact. Species surveys, such as gopher tortoise burrows, would be coordinated with Eglin Natural Resources. Any instances would be handled on a case-by-case basis should they occur. For example, if a gopher tortoise burrow were to be discovered, it would be given a mandatory 25-foot buffer or the tortoise would be relocated, depending on its location in respect to the project area, per Eglin Natural Resources direction.

In accordance with Eglin Natural Resource guidelines, signs would be posted to warn workers of the potential presence of protected species in work areas, and contractors would familiarize work crews with the appearance of these species. Specifically, signs alerting potential for the Federally-protected eastern indigo snake would be posted in active work sites. Work crews would be instructed to stop work if any protected animal species were to be encountered and to only resume work once the species leaves the area or at the direction of Eglin Natural Resources. It is expected that most potential species in the project area are noise sensitive and would be expected to leave the area on their own accord.

Construction staging and storage areas would be sited to lessen impacts to available habitat in the area and pending site investigation and potential remedial action activity at POI 519, located approximately 200-feet east to southeast of the proposed boundary of the Fitness Center. Placement of lay-down yards and access roads would need to be coordinated with 96 CEG/CEVSN and 96 CEG/CEVR, respectively.

Due to the mitigation, avoidance, and minimization efforts to be implemented in order to protect existing biological resources within the project area, only minor adverse impacts on biological resources would be expected.

4.2.1.2 Cumulative Impacts

Due to the mitigation, avoidance, and minimization efforts to be implemented in order to protect existing biological resources within the project area, only minor adverse cumulative impacts on biological resources would be expected.

4.2.2 No-Action Alternative

4.2.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no new construction and biological resource conditions would remain the same as the baseline conditions. Therefore, the No-Action Alternative would have no impact on biological resources at Eglin AFB.

4.2.2.2 Cumulative Impacts

The No-Action Alternative would result in no new demolition, construction or land-clearing. Therefore, the No-Action Alternative would have no major cumulative impacts on biological resources at Eglin AFB.

4.3 Coastal Zone Management Act

4.3.1 Proposed Action

Federal applicants seeking a FCMP consistency determination are required to submit their own preliminary consistency determination along with an EA to the Florida State Clearinghouse. The preliminary consistency determination for the Proposed Action is presented in **Appendix C**. The Draft EA has been submitted to the Florida State Clearinghouse for a FCMP consistency determination from FDEP. The Clearinghouse solicits comments from appropriate state, regional, and local reviewers to determine consistency with the FCMP. Based on an evaluation of comments and recommendations, FDEP makes the state's final consistency determination. Documentation of the consistency determination is included in **Appendix B**.

4.3.2 No-Action Alternative

The No-Action Alternative would result in no new construction. Using this alternative the coastal zone management conditions would remain the same, as described in **Section 3.3.2**.

4.4 Geologic Resources

4.4.1 Proposed Action

Protection of unique geologic and topographic features, minimization of soil erosion, and siting of facilities in relation to potential geologic hazards (such as sinkholes) should be considered when evaluating potential impacts of a Proposed Action on the installation's geologic resources. Generally, impacts can be avoided or minimized if proper siting, construction techniques, erosion control measures, and structural engineering design are incorporated into project development.

4.4.1.1 Direct and Indirect Impacts

Under the Proposed Action, construction and demolition activities such as excavating, grading, grubbing, and re-contouring of the soils and shallow geologic sediments would result in some minor disturbance. Erosion and sediment disturbances resulting from demolition, land clearing, and construction activities would be managed through the implementation of BMPs (e.g., silt fencing, sediment traps, application of water sprays, and revegetation of disturbed areas) in compliance with FAC 62-621 and 62-346 permit requirements.

Therefore, the Proposed Action for the construction project would have short-term minor impact on geologic resources at Eglin AFB.

4.4.1.2 Cumulative Impacts

With respect to geologic resources, the entirety of the Proposed Action is located within the boundaries of Eglin AFB. The likelihood of past, present, or reasonably foreseeable future actions causing adverse cumulative impacts to the Geologic environment is low. Therefore, the Proposed Action would have no major cumulative impacts on geologic resources at Eglin AFB.

4.4.2 No-Action Alternative

4.4.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no demolition, construction, or land-clearing. Using this alternative, the condition of geologic resources at Eglin AFB would remain unchanged, as described in **Section 3.4.2**.

4.4.2.2 Cumulative Impacts

The No-Action Alternative would result in no new demolition, construction, or land-clearing. Therefore, the No-Action Alternative would have no major cumulative impacts on geological resources at Eglin AFB.

4.5 Hazardous Materials, Hazardous Waste, and Solid Waste

Impacts on hazardous materials and waste are evaluated based on the relative potential increase or decrease in the amount of material used or waste generated. Impacts on solid waste, hazardous materials, and waste management would be considered major if the Proposed Action resulted in noncompliance with applicable Federal or FDEP regulations; an increase in the amounts generated or procured beyond current Eglin waste management procedures; or exceedance of the capacities of local waste facilities. Impacts on stored fuels would be major if the established management policies, procedures, and handling capacities could not accommodate the activities associated with the Proposed Action. Impacts on the ERP would be considered major if the action disturbed (or created) contaminated sites resulting in adverse impacts on human health or the environment.

4.5.1 Proposed Action

The Proposed Action is the construction of a new Fitness Training Center and Fitness Training Area. Components of the Proposed Action are the demolition of four buildings and clearing of approximately 35-acres of undeveloped land. The Proposed Action would have no adverse impact on hazardous materials or the ERP and further discussion concerning these topics is omitted from the following section.

4.5.1.1 Direct and Indirect Impacts

Hazardous Waste

The quantity of hazardous waste generated from proposed activities is expected to be minimal. Special Wastes and Universal Wastes would result from demolition activities and would be handled in accordance with AACI 32-7003. These wastes would consist primarily of lighting components (bulbs and ballasts) which are routinely handled on base through predetermined channels. The Proposed Action would have a negligible short-term adverse impact on hazardous waste at Eglin AFB.

Solid Waste

Solid waste generated by the Proposed Action would result from construction, demolition, and land clearing activities.

Approximately 35-acres of undeveloped land would be cleared in preparation for construction of the Fitness Training Center, Fitness Training Area, and the associated parking area. This land is currently well vegetated with primarily pine, hardwoods, and scattered understory growth. Clearing and grubbing activities would result in an estimated range of 1,750 to 3,150 tons of land clearing debris. The higher end of this estimate (3,150 tons) represents only 1.6% of the average annual C&D/LCD volume collected by Okaloosa County landfills over the past 3 years. It is expected that a reasonable effort would be made to market and utilize all wood by-products for lumber, fuel, or chips, and that BMPs would be utilized to minimize and manage landfill disposal. Optimal management and utilization would result in no landfill deposits and thus no impact to solid waste.

The Proposed Action also includes demolition of four existing structures. Demolition debris would include: concrete rubble, masonry, miscellaneous metal debris, drywall, ceramic plumbing fixtures, and wood products. It is assumed that BMPs would be utilized to reduce and manage

the generated waste stream, including recycling, when possible. Waste removed from the site for landfilling would be deposited in a C&D facility. This assessment assumes a worse-case scenario where 100% of C&D debris is to be landfilled.

The effects associated with implementation of the Proposed Action construction and demolition projects can be estimated using the following assumptions (USEPA, 1998):

- Approximately 3.89 pounds of construction debris are generated for each square foot of floor area for new structures.
- Approximately 155 pounds of demolition debris are generated for each square foot of floor area demolished.

Estimated tonnage of C&D debris for the Proposed Action is presented in **Table 4-4**.

Table 4-4 Construction and Demolition Debris Estimate

Building ID	Type of C&D Debris	Floor Area (ft ²)	Multiplier* (pounds/ft ²)	Total C&D Debris (tons)
810	Demolition	45,092	155	3,495
843	Demolition	15,653	155	1,213
719	Demolition	2,349	155	182
720	Demolition	1,906	155	148
F&T Center	Construction	128,236	3.89	249
Total				5,287

*USEPA, 1998

An estimated 5,287 tons of C&D debris would be generated by the proposed demolition and construction projects. This amount represents 2.7% of the average annual C&D volume collected by Okaloosa County landfills over the past 3 years. The Proposed Action represents a minor short-term adverse impact on solid waste at Eglin AFB and Okaloosa County. Cumulative estimated volumes of LCD and C&D debris represent minor short-term adverse impacts to the solid waste system within Okaloosa County.

The new facility would likely encourage increased utilization by additional personnel. Additional small quantities of solid wastes such as beverage containers, food wrappers, paper, etc. would result from additional use. Through Eglin's recycling program, this waste represents a minute increase over these types of wastes generated at the current facilities and represents a negligible long-term impact on solid waste on Eglin AFB.

Stored Fuel

An emergency generator and aboveground storage tank (AST) would be placed in service at the new Fitness Center. Fuel storage capacities at other basewide emergency generator locations range from 55 to 2,000 gallons and it is not expected the fuel capacity for the new tank would exceed 500 gallons. The additional tank would be added to the Eglin SPCC Plan and a site-specific spill response plan should be developed. If the tank volume would be greater than 550-gallons, the tank must be registered under FAC 62-762, *Petroleum Storage Systems (Aboveground Storage Tank Systems)*. The additional fuel storage tank represents a minor change in fuel storage and fuel management requirements and represents minor short-term and long-term impacts on established management policies, procedures, and handling capacities for stored fuel at Eglin AFB.

Asbestos

Removal of friable asbestos from buildings scheduled for demolition is mandatory per EAFB Plan 32-3, *Asbestos Management Plan*. Prior to a survey by a qualified inspector, friable asbestos volumes can only be estimated based on a worst-case basis. If all flooring material, ceiling material, and walls are assumed sources of friable asbestos, then the calculation for ACM volumes is simplified and most likely conservative. **Tables 4-5, 4-6, and 4-7** show calculated estimates of ACM for each individual building component for each building scheduled for demolition.

Table 4-5 Flooring Estimate

Building ID	Type of Waste	Floor Area (ft2)	Component Thickness (ft)	Component Dimension (ft3)	Total Volume (yd3)
810	Asbestos	45,092	0.0104	470	17
843	Asbestos	15,653	0.0104	163	6
719	Asbestos	2,349	0.0104	24	1
720	Asbestos	1,906	0.0104	20	1
Total					25

Table 4-6 Ceiling Estimate

Building ID	Type of Waste	Ceiling Area (ft ²)	Component Thickness (ft)	Component Dimension (ft ³)	Total Volume (yd ³)
810	Asbestos	45,092	0.0625	2,818	104
843	Asbestos	15,653	0.0625	978	36
719	Asbestos	2,349	0.0625	147	5
720	Asbestos	1,906	0.0625	119	4
Total					150

Table 4-7 Wall Estimate

Building ID	Type of Waste	Wall Area (ft ²)	Component Thickness (ft)	Component Dimension (ft ³)	Total Volume (yd ³)
810	Asbestos	8,494	0.0417	354	13
843	Asbestos	5,004	0.0417	209	8
719	Asbestos	1,939	0.0417	81	3
720	Asbestos	1,746	0.0417	73	3
Total					27

Based on these calculations, an estimated 202 cubic yards of ACM may be subject to treatment and disposal as a source of friable asbestos. Landfills in Okaloosa County do not accept asbestos or other hazardous wastes. However, three landfills within the surrounding counties of Escambia, Santa Rosa, and Jackson accept ACM and individually each possesses sufficient capacity for the estimated volumes. The Proposed Action would have minor short-term and long-term impact on asbestos waste.

Lead-based Paint

Lead-based paint is commonly found on wood trim, baseboards, doors, doorframes, etc. in structures completed or painted prior to 1985. All four buildings scheduled for demolition were constructed prior to 1985. Demolition and final disposition of demolition debris would be performed in accordance with Eglin AFB Plan 32-4, *Lead-Based Paint Management Plan*. The plan requires laboratory testing (Toxicity Characteristic Leaching Procedure [TCLP]) of a representative composite sample of the entire waste stream from the demolition project. If the TCLP results surpass the USEPA threshold of 5 ppm the debris is to be considered hazardous and must be disposed accordingly.

If all demolition debris were deemed hazardous, an estimated 5,287 tons of debris (**Table 4-4**) would require transportation to a hazardous waste facility. The nearest hazardous waste facility

is located in Escambia County, Alabama which processes nearly 2,500 tons of solid waste per day and has sufficient current capacity to service this project. If testing resulted in concentrations below the 5 ppm threshold, the demolition debris could be delivered to a C&D landfill and the short-term and long-term impacts would be consistent with those determined in the Solid Waste section above. The Proposed Action would have a minor short-term adverse impact on LBP debris disposal.

4.5.2 No-Action Alternative

The No-Action Alternative would result in no construction of a Fitness Center or Fitness Area, no demolition of Buildings 810, 843, 719, or 720, and no land-clearing of the 35-acre site. Using the No-Action Alternative, hazardous waste and solid waste generation as well as hazardous materials usage at Eglin AFB would remain unchanged, as described in **Section 3.5.2**.

4.6 Noise

Human response to noise depends on a variety of circumstances including the time of day, the individual's sensitivity, distance from the source, and environment. The maximum acceptable noise level for most residential land uses is generally considered to be 65 dBA DNL. Noise impact analysis evaluates potential changes to the existing noise environment that would result from implementation of a Proposed Action. Beneficial changes in the noise environment would be achieved by reducing the number of sensitive receptors exposed to unacceptable noise levels. Negligible changes in the noise environment would be observed when the number of sensitive receptors exposed to unacceptable noise levels is essentially unchanged. Adverse changes in the noise environment would be observed when the number of sensitive receptors exposed to unacceptable noise levels is increased.

4.6.1 Proposed Action

4.6.1.1 Direct and Indirect Impacts

Land clearing, building construction, and demolition work can cause noise impacts above ambient sound levels. A variety of sounds result from graders, pavers, trucks, welders, and other work processes. Typical construction work generates noise levels in the range of 78 to 89 dBA approximately 50 feet from the construction area. Since a typical urban neighborhood is usually around 60 to 70 dBA, noise emissions from construction projects can cause intermittent short-term impacts.

Based on the EPA publication, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, PB 206717 (USEPA, 1971), noise levels from a construction source decrease by approximately 3 dBA every 50 feet over a hard, unobstructed surface such as asphalt. Noise levels from a construction source decrease by approximately 4.5 dBA every 50 feet over a soft surface such as vegetation.

Considering 90 dBA as the maximum construction noise and the type of surfaces between the Proposed Action sites, surrounding living quarters, or nearest residence, the resulting noise levels for living quarters closest to each site are indicated in **Table 4-8** below. A minimum 50-foot vegetation buffer is proposed along the northern and eastern Proposed Action area.

Table 4-8 Noise Estimate for Proposed Action

Building Number, Name	Approximate distance from living quarters / residence (feet)	dBA decrease	Resulting dBA
DEMOLITION PROJECTS			
Building 843, HAWC	300	-27	<65
Building 719, Women's fieldhouse	600	-54	<65
Building 720, Men's fieldhouse	1,200	-108	<65
Building 810, Fitness Center	1,400	-126	<65
CONSTRUCTION PROJECTS			
MILCON Fitness Center	925	-83.25	<65
Fitness Training Area	170	-15.3	<75

Sound levels of less than 65 dBA are consistent with living conditions. Sound levels that exceed 65 dBA but are less than 75 dBA exceed typical residential sound levels but are not at a level which requires extensive mitigation. Considering construction and demolition activities would occur during daytime activities only, elevated sound levels would exceed only the 65 dBA level during daylight hours intermittently and for a short duration.

Once the Proposed Action construction projects are completed, the ambient noise level would return to a normal level. No long-term impacts on the ambient noise level would occur as a result of the Proposed Action. Therefore, the Proposed Action would have a minor short-term impact on noise at Eglin AFB the neighboring public school, and nearby Valparaiso residents.

4.6.1.2 Cumulative Impacts

The noise generated during the Proposed Action would be intermittent and short-term, and therefore, the likelihood of past, present, or reasonably foreseeable future actions causing adverse cumulative noise impacts is low. No adverse cumulative noise impacts would be expected.

4.6.2 No-Action Alternative

4.6.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no demolition, construction, or land clearing and noise conditions would remain the same as described in **Section 3.6.2**. Therefore, the No-Action Alternative would have no impact on noise at Eglin AFB.

4.6.2.2 Cumulative Impacts

The No-Action Alternative would result in no demolition, construction, or land clearing and would therefore result in no adverse cumulative noise impacts.

4.7 Safety

Impacts were assessed based on direct effects and indirect effects from construction activities. Impacts on safety would be considered major if human health would be placed in jeopardy or undue risk by the implementation of the Proposed Action.

Although UXO is always a safety component when working at Eglin AFB, the Proposed Action is not situated in an area with a high probability for UXO hazard.

4.7.1 Proposed Action

4.7.1.1 Direct and Indirect Impacts

Construction, demolition, and land clearing activities associated with the Proposed Action could pose short-term safety hazards to construction workers and Eglin AFB personnel. Hazards generated during demolition and construction projects are generally industrial in nature. This would pose the greatest risk to Eglin AFB personnel who remain in the immediate vicinity of the construction work. Safety hazards associated with construction and demolition activities typically include exposure to falls, slips, excavations and trenches, noise, dusts, heavy equipment operations, congested working spaces and parking areas, and constantly changing work environments. Any non-Air Force personnel performing work on Eglin AFB are subject to the

OSHA regulations to ensure the protection of construction workers, Eglin personnel, and the general public during construction; thereby alleviating this potential safety hazard.

Therefore, the Proposed Action for the construction projects would have a short-term minor adverse impact on safety at Eglin AFB.

4.7.1.2 Cumulative Impacts

Construction, demolition and land clearing activities associated with the Proposed Action in combination with other construction or demolition activities occurring elsewhere on Eglin AFB, would cumulatively increase safety risks. Day-to-day operations and maintenance activities conducted at Eglin AFB would be performed in accordance with applicable Air Force safety regulations and OSHA requirements. Ground disturbing activities have the potential to expose workers to contamination from unidentified Environmental Cleanup sites, while demolition activities could expose workers to ACM or LBP. Construction and demolition activities would be accomplished in accordance with applicable AF, OSHA, Federal, state, and local regulations to minimize general construction hazards as well as those associated with hazardous materials, wastes, and substances. No adverse cumulative impacts on safety would be expected.

4.7.2 No-Action Alternative

4.7.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no new construction. Using this Alternative, the safety conditions at Eglin AFB would remain the same, as described in **Section 3.7.2**.

4.7.2.2 Cumulative Impacts

The No-Action Alternative would result in no demolition, construction, or land clearing and would therefore result in no adverse cumulative safety impacts.

4.8 Transportation

Impacts on transportation are evaluated based on their potential to deteriorate or improve existing LOS. Potential changes may stress the transportation system. Impacts may arise from physical changes to traffic patterns, construction activities, introduction of construction-related traffic on local roads, or changes in daily or peak-hour traffic volumes. Transportation impacts would be major if the projected peak traffic volume generated by the Proposed Action exceeds the capacity of the affected roadways.

4.8.1 Proposed Action

4.8.1.1 Direct and Indirect Impacts

During construction of the Proposed Action, additional vehicle trips would be generated in and around the Proposed Action by vehicles transporting workers, material, and equipment to the proposed site. It is expected that construction traffic would affect the Commercial Gate, 8th Street, Eglin Boulevard, Foster Road and the East Gate. This additional loading of local roadways would cause a slight temporary increase in wait-times at the affected gates and traffic signals of affected roadways and thus result in a short-term minor adverse impact to transportation at Eglin AFB. Measures such as timing construction work-shifts so that the arrivals and departures of work crews avoid peak-hours would help lessen effects at the gates and on the major arterials that service the area.

Once construction of the proposed facilities is complete, additional traffic would primarily utilize the easternmost portion of Eglin Boulevard. However, the current facilities already utilize many of the same roadways that would service the new facility, including Eglin Boulevard, Foster Road, 7th Street, 8th Street, and the East Gate. LOS determinations for the affected intersections are provided in **Table 4-9**, below.

Table 4-9 Predicted LOS Conditions

Roadway Segment	Adopted LOS	2006 Peak Hour LOS	2016 Predicted Peak Hour LOS
7 th Street (Daytona Road to Eglin Boulevard)	E	C	C
8 th Street (Daytona Road to Eglin Boulevard)	E	C	C
Eglin Boulevard (7 th Street to East Gate)	D	C	C/D

Source – *Proposed Implementation of the Base Realignment and Closure 2005 Decisions and Related Actions at Eglin AFB, FL*. Final Environmental Impact Statement, October 2008

The new facility would likely encourage increased utilization by additional personnel. However, based on the 24-hour availability of the new facility, it is expected the arrivals and departures of

the additional personnel would generally avoid peak-hours. Additionally, retiming affected signals, installing in-road sensors, and establishing turn-only lanes in the vicinity of the Proposed Action would help mitigate increased local roadway usage. The additional loading of these local roadways would contribute to the area's existing traffic congestion but would be a negligible long-term impact.

4.8.1.2 Cumulative Impacts

The Proposed Action would create short-term construction traffic that when combined with other short-term construction traffic for other projects occurring on Eglin AFB may cause short-term cumulative impacts to transportation on Eglin AFB.

The construction of the Proposed Action would re-route fitness related traffic slightly northeast along Eglin Boulevard and may increase usage of the East Gate Shopette traffic signal at Foster Road. That area of the base is nearly 100-percent developed and no additional appreciable increases in traffic would be expected. Once construction has been completed, effects on transportation would be marginal and no long-term adverse cumulative impact would result.

4.8.2 No-Action Alternative

4.8.2.1 Direct and Indirect Impacts

The No Action Alternative would result in no new construction and would not increase traffic congestion in the area. The No-Action Alternative would result in no new construction. Using this Alternative, the transportation conditions at Eglin AFB would remain the same, as described in **Section 3.8.2**.

4.8.2.2 Cumulative Impacts

The No-Action Alternative would result in no new construction and would therefore result in no cumulative impacts on transportation due to traffic congestion.

4.9 Water Resources

Evaluation criteria for impacts on water resources are based on water availability, quality, and use; existence of wetlands or floodplains; and associated regulations. The Proposed Action would have adverse impacts if it were to do one or more of the following:

- Substantially reduce water availability or supply to existing users
- Cause aquifer overdraft

- Adversely affect water quality
- Diminish aesthetic or recreational value of surface waters
- Endanger public health by creating or worsening health hazard conditions
- Threaten or damage unique hydrologic characteristics
- Violate established laws or regulations adopted to protect water resources
- Cause flooding or be subject to flooding
- Diminish the major function of a wetland or substantially alter it without mitigation

4.9.1 Proposed Action

4.9.1.1 Direct and Indirect Impacts

Drainage Basin

Under the Proposed Action, 37-acres located in the Boggy Bayou sub-basin, within the Choctawhatchee Bay cataloguing unit would be affected by demolition, construction, and land clearing activities. The Choctawhatchee Bay cataloguing unit consists of 699 square miles, being composed of numerous sub-basins. The proposed action would affect only the Boggy Bayou sub-basin which comprises 1% of the Choctawhatchee Bay cataloguing unit. The affected area within the sub-basin is less than 0.75% of the total sub-basin area. With respect to Eglin AFB Watersheds, completed construction would add impervious surface to the drainage basin in the form of a new building and parking facilities. Construction of the Fitness Center would add an estimated 128,236 square feet and required parking would add 27,090 square feet or a total of 3.56 acres of impervious surface, all within Watershed Number 14. Currently there is an estimated 34 acres of impervious surface within Watershed 14. The Proposed Action would result in an additional 3.56 acres or 10% increase of impervious surface to the watershed.

Demolition of Buildings 719, 720, 810, and 843 represents a 65,000 square foot or a total of 1.5 acres reduction of impervious surface, within Watershed Number 12. The total project activities would result in a total net increase of 90,326 square feet or 2.06 acres of impervious surface in the local area.

To minimize the impact to the drainage basin, LID techniques would be incorporated into building, site, and landscape design plans; and erosion and sediment control BMPs would be utilized during active construction. Demolition of buildings, excavation, grading, clearing, and

grubbing would expose soils to the elements and would require controls to minimize short-term impacts.

The Proposed Action for demolition, construction, and clearing activities would result in minor short- and long-term impacts on drainage basins.

Floodplains

No portion of the Proposed Action is within or encroaching upon a floodplain, although a flood plain exists within the affected sub-basin and watershed. Proper use of erosion and sediment control BMPs in accordance with applicable permits would eliminate or minimize impacts to these floodplains resulting from demolition, construction, and clearing activities.

With the proper implementation of BMPs, the Proposed Action would result in no short- or long-term impacts on floodplains.

Surface Water

No surface waters exist in the immediate area of the Proposed Action. LID stormwater practices instituted during design would keep stormwater volumes to a minimum. Stormwater from the site during demolition, clearing and construction would be managed in accordance with the NFWFMD Environmental Resource Permit Program and the FDEP Stormwater Discharge Permit for Construction Activities, as mentioned in Section 1.6.3.1 and 1.6.3.2. Proper use of erosion and sediment control BMPs, in compliance with FAC 62-621 and 62-346 permit requirements, would eliminate or minimize impacts to surface waters within the sub-basin and watershed due to demolition, construction, and clearing activities. The Environmental Resource Permit program regulates the construction, alteration, maintenance, removal, modification, and operation of all activities in uplands, wetlands, and other surface waters that would alter, divert, impede, or otherwise change the flow of surface waters. The program is designed to ensure that such activities do not degrade water quality or cause flooding. The stormwater management system associated with the Proposed Action would be designed in accordance with the NFWFMD guidelines to retain and treat a portion of the rainfall received at the site. Increased volume, if any, of stormwater diverted to Weekley Bayou would depend on the final approved stormwater system design, and the distance and condition of land over which the water travels, after it is released from the stormwater management system. As such, the Proposed Action for

demolition, construction, and clearing activities would result in no short-term impacts and negligible long-term impacts on surface waters.

Wetlands

No portion of the Proposed Action is within or encroaching upon a wetland. Proper use of erosion and sediment control BMPs would eliminate or minimize impact to wetlands within the basin and watershed due to demolition, construction, and clearing activities. LID stormwater practices instituted during design would keep stormwater volumes to a minimum thereby keeping stormwater runoff diverted to Weekley Bayou less than an estimated 10%. Furthermore, BMPs would be employed in accordance with applicable permits to protect any wetlands at the points of discharge.

The Proposed Action for demolition, construction, and clearing activities would result in no short-term impacts and negligible long-term impacts on wetlands.

Ground Water

Sand & Gravel Aquifer. Proper use of erosion and sediment control BMPs would minimize possible impacts to the Sand & Gravel Aquifer that could result from demolition, construction, and clearing activities. In accordance with applicable permits, BMPs would be employed to prevent ground water contamination that could result from use and handling of hazardous materials, hazardous waste, and fuels associated with demolition, construction, and clearing activities. It is possible that either temporary (construction) or landscape irrigation wells would be required for the Proposed Action. Landscaping would be used to provide an attractive and professional-looking area by using plants, shrubs, and trees to blend with the surrounding environment. When possible, landscaping techniques would incorporate native or other approved species adapted to climate and soil conditions to reduce water requirements and minimize erosion. Irrigation water needs would be seasonal and based on available yields from the Sand & Gravel Aquifer; this would not be expected to present any short- or long-term impact.

The Proposed Action for demolition, construction, and clearing activities would result in no short- or long-term impacts on the Sand & Gravel Aquifer.

Floridan Aquifer. Due to the surficial nature of the Proposed Action and depth of the Floridan Aquifer, demolition, construction, and clearing activities would have no short- or long-term impact on the Floridan Aquifer.

Continued use of the existing and proposed Fitness Facilities would require on-going usage of potable water obtained from the Floridan Aquifer. A comparison of water usage statistics between the existing pre-1990 water appliances and the recommended water efficient appliances stipulated in *Air Force Guide to Green Purchasing*, are provided in **Table 4-10** below.

Table 4-10 Water Usage Statistics

Water Appliance	Pre-1990 Rating	2000 Model Year Rating	Savings Per Usage (minute or flush)
Faucet	5 to 7 gpm	0.5 gpm	4.5 to 6.5 gpm
Showerhead	4.5 to 8 gpm	1.5 gpm	3.0 to 6.5 gpm
Toilet	4 to 7 gpf	1 gpf	5 to 6 gpf

Notes –
 gpm= gallon per minute
 gpf = gallon per flush
 Existing HAWC and fitness center water appliances have not been updated since at least 1990 per MSgt Robertson
 Water Usage Ratings excerpted from Federal Energy Management Program *Domestic Water Conservation Technologies* (DOE/EE-2064) as referenced by the *Air Force Guide to Green Purchasing*.

In order to evaluate the comparison of water usage, it is assumed that an average Fitness Center patron would take one ten minute shower, two toilet flushes, and two 1.5 minute hand washings per day. The water usage comparison is shown below in **Table 4-11**.

Table 4-11 Water Usage Comparison per Patron per Day

Water Appliance	Time (minutes)	1990 Model, Appliance Usage	2000 Model, Appliance Usage	Water Savings in New Facility per Patron per Day
Faucet	3	15 to 21 gal	1.5 gal	13.5 to 19.5 gal
Showerhead	10	45 to 80 gal	15 gal	30 to 65 gal
Toilet	2	8 to 14 gal	2 gal	6 to 12 gal
Totals:		68 to 115 gal	18.5 gal	49.5 to 96.5 gal

Notes – gal=gallon

Utilizing the data calculated in **Table 4-11** above, a water usage factor can be developed to demonstrate the additional number of patrons that can be accommodated by using “green” or water saving devices. Therefore, based on this information the proposed Fitness Facility constructed with water saving devices in accordance with or more stringent than those stipulated in *Air Force Guide to Green Purchasing*, could accommodate between 2.68 and 5.21 times the number of patrons currently serviced by the existing Fitness Facilities. The water usage savings factor is calculated below in **Table 4-12**.

Table 4-12 Water Usage Savings Factor

2000 Model Appliance Water Usage per Patron per Day	Water Savings per Patron Per Day	<u>Savings per Patron per Day</u> Usage per Patron per Day
18.5 gal	49.5 gal	2.68
	96.5 gal	5.21
Usage Savings Factor:		2.68 to 5.21

Therefore, it is not anticipated the Proposed Action would have a substantial effect on the current withdrawal rate from the Floridan Aquifer.

4.9.1.2 Cumulative Impacts

The Proposed Action is located within the boundaries of Eglin AFB. Eglin is consistently proactive in guarding and preserving its natural resources through proper permitting and implementation of appropriate mitigation measures and thus the likelihood of past, present, or reasonably foreseeable future actions causing adverse cumulative impacts to the drainage basin, floodplain, surface water, wetlands, or ground water conditions is low. No major adverse cumulative impacts on the drainage basin, floodplain, surface water, wetlands, or ground water conditions would be expected.

4.9.2 No-Action Alternative

4.9.2.1 Direct and Indirect Impacts

The No-Action Alternative would result in no demolition, construction, or land clearing activities. The No-Action Alternative would result in no change to the drainage basin,

floodplain, surface water, wetlands, or ground water. There would be no change in impervious surface area in Watersheds 12 or 14, and no change in stormwater volumes discharged to Weekley Pond or Weekley Bayou.

4.9.2.2 Cumulative Impacts

The No-Action Alternative would result in no demolition, construction, or land clearing and would therefore result in no substantial adverse cumulative impacts on the drainage basin, floodplain, surface water, wetlands, or ground water.

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5 PLANS, PERMITS, AND MANAGEMENT REQUIREMENTS

The following is a list of plans, permits, and management actions associated with the Proposed Action. The environmental impact analysis process for this EA identified the need for these requirements which were developed through cooperation between the proponent and interested parties involved in the Proposed Action. These requirements are, therefore, to be considered as part of the Proposed Action and implementation would be through the Proposed Action's initiation. The proponent is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management actions.

5.1 Plans

- Site Design Plan
- Stormwater, Erosion, and Sedimentation Control Plan
- Stormwater Pollution Prevention Plan (FAC 62-621.300)

5.2 Permits

- Stormwater facility design and construction permit (FAC 62-346)
- State of Florida Generic Permit for Stormwater Discharge from construction activities that disturb one or more acres of land (FAC 62-621.300)
- Base civil engineering work clearance request, AF Form 103
- Utility extension permits, as needed. (Including drinking water and wastewater, FAC 62-555 and 604)
- Notification of Asbestos demolition, as needed. (FAC 62-257)
- Storage Tank Systems Notification, as needed. (FAC 62-762)
- CZMA Consistency Determination (Florida Statutes, Chapter 380, Part II)
- Other permits and authorization through FDOT and Okaloosa County, as needed.

5.3 Management Requirements

The proponent is responsible for the implementation of the following management requirements.

5.3.1 Air Quality

Application of water sprays, revegetation of disturbed areas, and use of geotextiles would be utilized as needed to minimize fugitive particulate emissions during ground-disturbing activities in accordance with the stormwater construction permit. (FAC 62-346 and 621)

5.3.2 Biological Resources

Site design plans and permits will include site-specific management requirements for erosion and sediment control BMPs. BMPs include: silt fencing, sand bags, rock bags, sediment traps, sediment basins, synthetic bales, application of water sprays, revegetation of disturbed areas, and use of geotextiles, as needed. (FAC 62-346 and 621)

Design plan measures to help prevent and control dissemination of invasive species including: cleaning off-site vehicles before entrance to Eglin, prohibiting hay or stray bales; and requiring sod and fill material inspection. (Executive Order 13112 and FAC Chapter 5B-57)

In accordance with Eglin Natural Resources, a gopher tortoise survey will be performed prior to commencing construction. If a gopher tortoise burrow were to be discovered, it would be given a mandatory 25-foot buffer or the tortoise would be relocated, depending on its location in respect to the project area, per Eglin Natural Resources direction. Information signs will be posted in active construction areas alerting crews to the potential presence of the eastern indigo snake and other protected species. Contractors will familiarize work crews with the appearance of potential protected species and instruct work crews not to kill any snakes, especially black snakes. Other safeguards such as predator-proof waste containers will be utilized during construction so as to avoid attracting bears or other species. Work crews will be instructed to stop work if protected animal species are encountered and to only resume work once the species leave the area. Certain species or activities such as nesting within or near the project area may require further consultation with Eglin Natural Resources, the FWC, or the USFWS.

5.3.3 Cultural Resources

If cultural resources, human remains, or other unexpected discoveries are encountered during project activities, work would cease and Eglin's Cultural Resource Section must be contacted at (850) 882-8459. If unexpected discoveries such as Native American graves or lost historic cemeteries are encountered, guidelines set forth in Chapter 872, F.S. (Florida's Unmarked Burial

Law) must be followed. Cultural Resources would notify the Florida State Historic Preservation Officer at (850) 245-6333 within 24 hours to begin procedures outlined in Chapter 872, F.S. The discovery would be protected until a qualified archaeologist can make a determination as to the status of the find. The site would be secured and work would only continue upon direction or authorization from 96 CEG/CEVSH.

5.3.4 Geological Resources (Soils and Erosion)

Site design plans and permits will include site-specific management requirements for erosion and sediment control BMPs. BMPs include: silt fencing, sand bags, rock bags, sediment traps, sediment basins, synthetic bales, floating and staked turbidity barriers, application of water sprays, revegetation of disturbed areas, and use of geotextiles, as needed. (FAC 62-346 and 621)

Stormwater management controls, inspections, and required remedial actions, as necessary in accordance with the Project Stormwater Pollution Prevention Plan. (FAC 62-621.300)

Construction activities will be sequenced to limit length of soil exposure.

Areas of existing vegetation that will not be disturbed by construction activities will be marked and identified.

5.3.5 Hazardous Materials, Hazardous Waste, and Solid Waste

Solid Waste

C&D debris will be recycled to the maximum extent practical.

The contractor will coordinate with local landfills to ensure adequate capacity for materials not eligible for recycling.

Stored Fuel

The above ground storage tank associated with the emergency generator for the proposed facility will be added to the Eglin SPCC Plan and a site-specific spill response plan will be developed.

If the storage tank volume is greater than 550-gallons, the tank would require registration under FAC 62-762, *Petroleum Storage Systems*.

Asbestos

A licensed contractor will be utilized to test for and remove any asbestos containing building materials from buildings proposed for demolition. (EAFB Plan 32-3)

The Proposed Facility will not contain asbestos containing building materials.

Lead Based Paint

Prior to demolition activities Eglin Bioenvironmental Engineering personnel will perform testing for Lead Based Paint. Testing results will determine whether building materials must be disposed as Hazardous Waste, or if they are eligible to be disposed as C&D debris. (Eglin AFB Plan 32-4)

The Proposed Facility will not contain lead based paint.

Environmental Cleanup Program

No ERP sites are located within the Proposed Action area. However, ERP Site POI 519, the Base Auto Hobby Shop, is located 200 feet east to southeast of the proposed fitness center. Construction staging and storage areas will be sited to lessen impacts to available habitat in the area and not impede pending site investigation and potential remedial action activity at POI 519. Placement of lay-down yards and access roads will need to be coordinated with 96 CEG/CEVSN and 96 CEG/CEVR, respectively.

5.3.6 Noise

In order to maintain aesthetic value and noise attenuation, the contractor will leave a 50-foot vegetated buffer between the construction site and the neighboring subdivision to the east and the Addie R. Lewis School to the north.

5.3.7 Safety

Federal requirements governing construction activities include the OSHA which specifies the amount and types of training required for workers, standard work protocols and procedures, the use of protective equipment, the implementation of engineering controls, and maximum exposure limits for workplace stressors. (29 USC Sections 651)

5.3.8 Water Resources

Relocation and extension of drinking water and wastewater infrastructure will be coordinated with local utility service providers and Eglin Civil Engineering to ensure no conflict or damage is experienced.

Depending on the design of the water and wastewater connections, permitting may be required in accordance with State regulations prior to construction or alteration of any public water system component or domestic wastewater collection/transmission systems. (FAC 62-555 and 604)

Site design plans and permits will include site-specific management requirements for erosion and sediment control BMPs. BMPs include: silt fencing, sand bags, rock bags, sediment traps, sediment basins, synthetic bales, floating and staked turbidity barriers, application of water sprays, revegetation of disturbed areas, and use of geotextiles, as needed. (FAC 62-346 and 621)

Stormwater management controls, inspections, and required remedial actions, as necessary in accordance with the Project Stormwater Pollution Prevention Plan. (FAC 62-621.300)

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6 LIST OF PREPARERS

Personnel	Project Contribution	Experience
Richard L. Burdine, PG Professional Geologist, FL No. 1863 B.S. Geology	Project Manager / Author	24 years environmental and geologic sciences. 20 years project management.
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Melissa A. Hoover, M.S. B.S. Biological Sciences M.S. Environmental Sciences	Author	11 years environmental science
Mathilda Ravine, M.A. B.S. Communications M.A. English	Technical Review	12 years technical writing and editing
Andrew W. Rider, PE Professional Engineer, FL No. 56896 B.S. Civil Engineering	Author	17 years environmental science and engineering
Tony R. Schmucker B.S. Geosciences	Author / GIS-Mapping	3 years environmental science and GIS

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---	--

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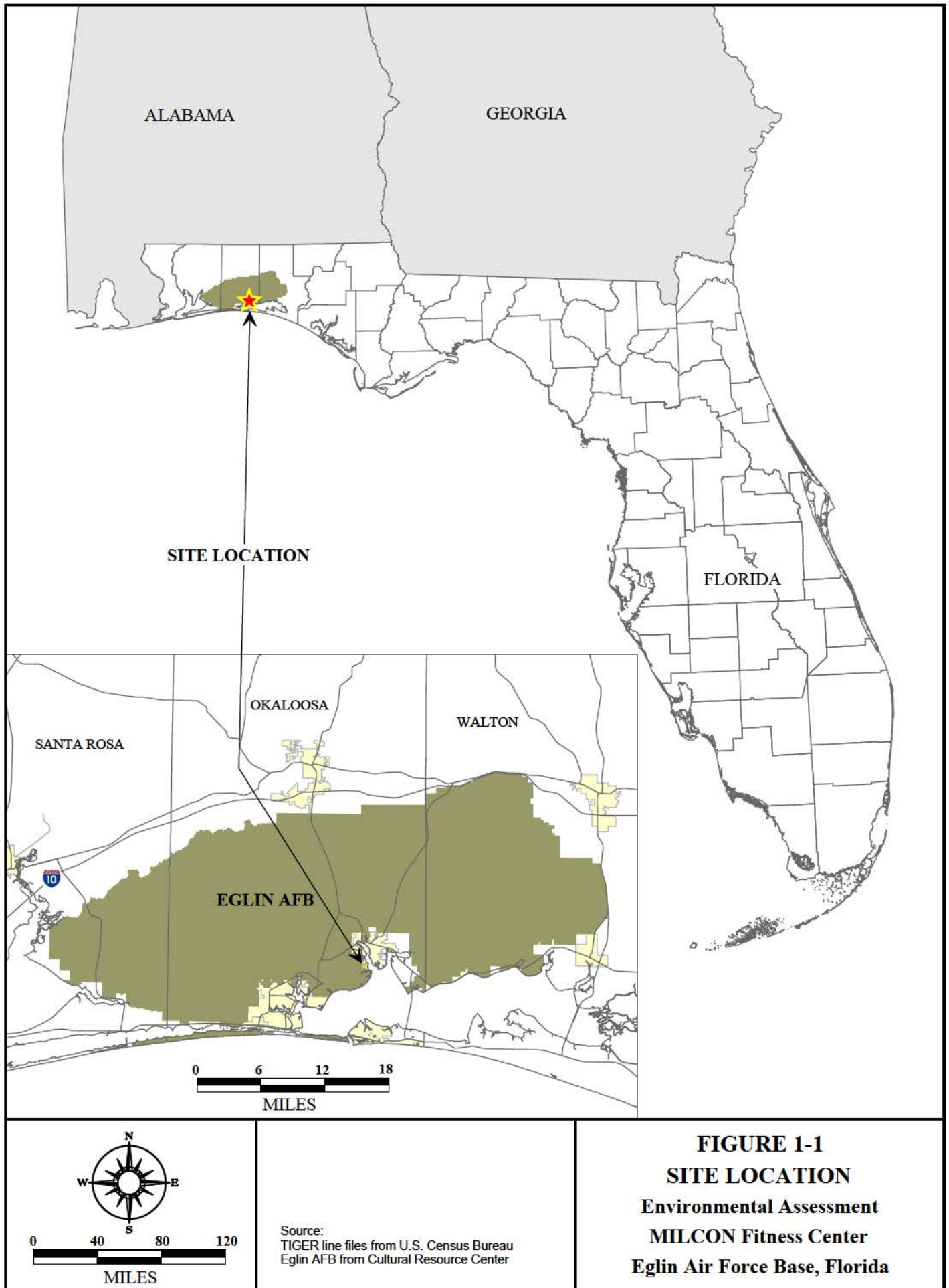
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FIGURES

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0.00 0.25 0.50 0.75
Miles

- Eglin AFB Boundary
- ▧ Buildings to be Demolished
- ▧ Proposed Construction Site

Sources: FDOT 2007 Aerial Photos
Line Files: Eglin AFB

FIGURE 1-2
AERIAL OVERVIEW
Environmental Assessment
MILCON Fitness Center
Eglin Air Force Base, Florida

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0 250 500 750 1000
Feet

- Eglin AFB Boundary
- ▧ Buildings to be Demolished
- ▧ Proposed Construction Site

Sources: FDOT 2007 Aerial Photos
Line Files: EAFB

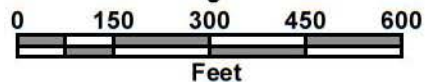
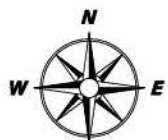
FIGURE 1-3 AREA OF PROPOSED ACTION

Environmental Assessment

MILCON Fitness Center

Eglin Air Force Base, Florida

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- Eglin AFB Boundary
- ▨ Buildings to be Demolished
- ▮ Proposed Construction Site

Sources: FDOT 2007 Aerial Photos
Line Files: EAFB

FIGURE 2-1
PLAN VIEW
Environmental Assessment
MILCON Fitness Center
Eglin Air Force Base, Florida

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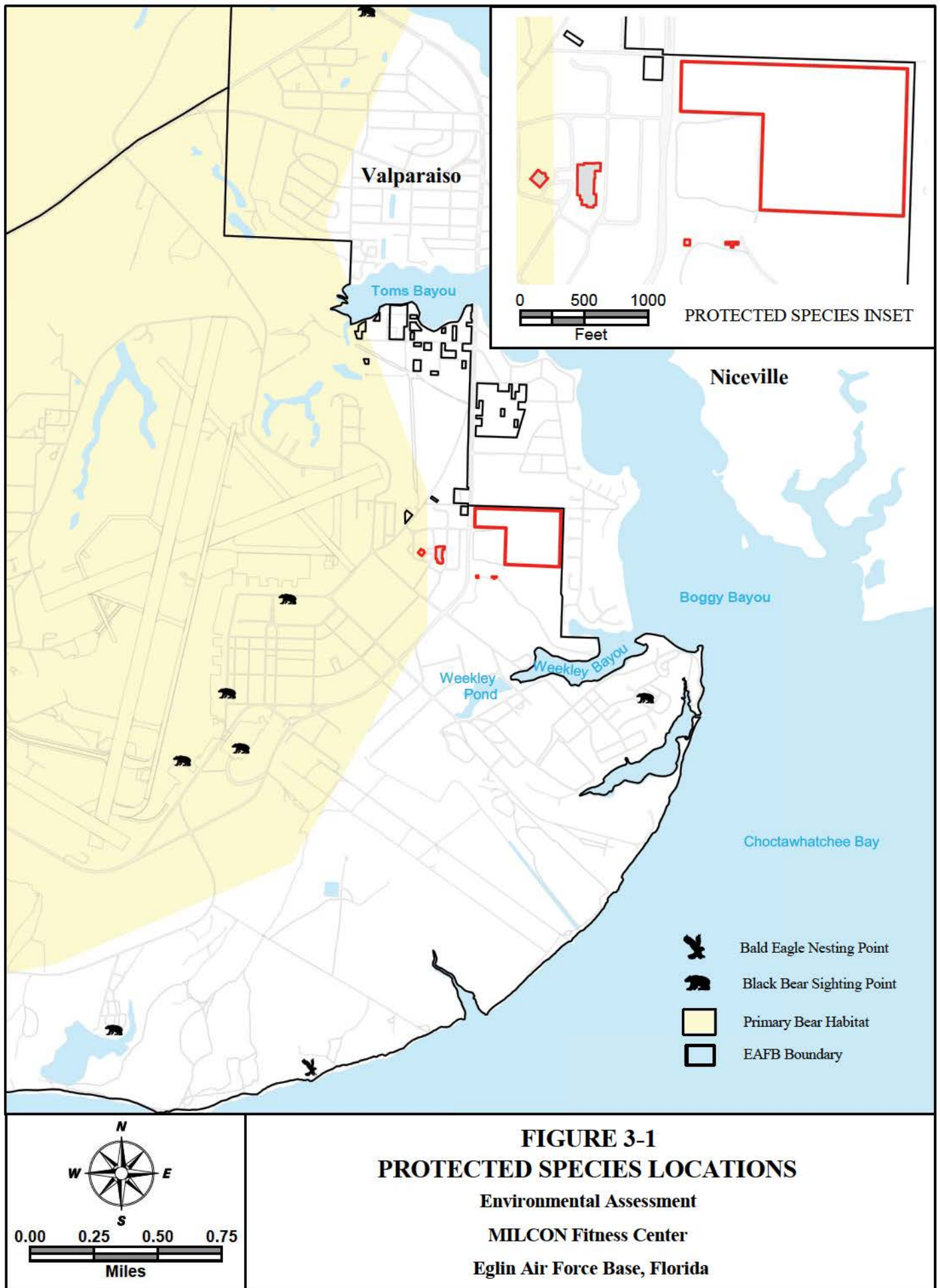
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- EAFB Boundary
- Preferred Alternative Location
- ▤ Considered Alternative Location

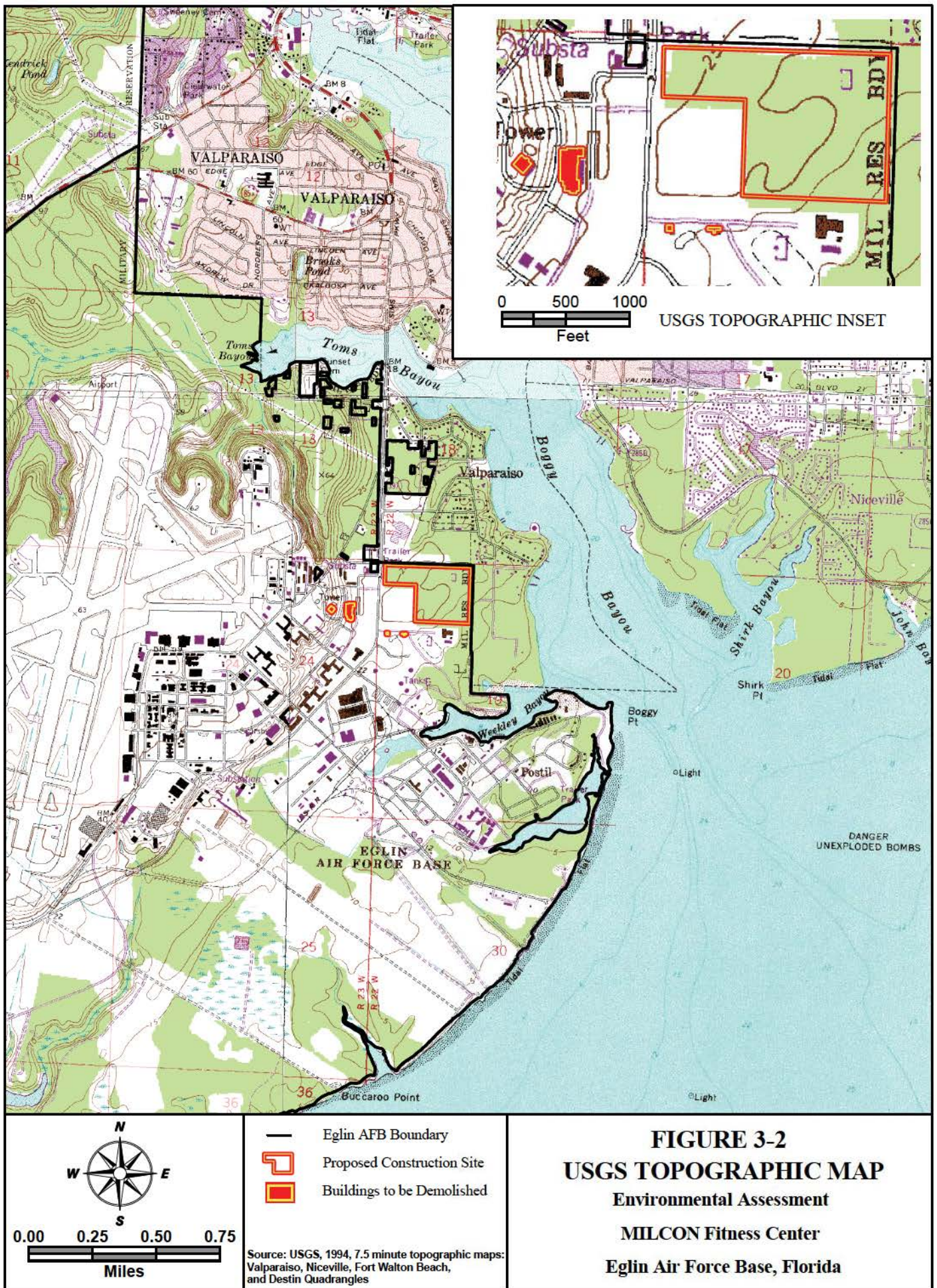
Sources: FDOT 2007 Aerial Photos
Line Files: EAFB

FIGURE 2-2
CONSIDERED ALTERNATIVE LOCATIONS
Environmental Assessment
MILCON Fitness Center
Eglin Air Force Base, Florida

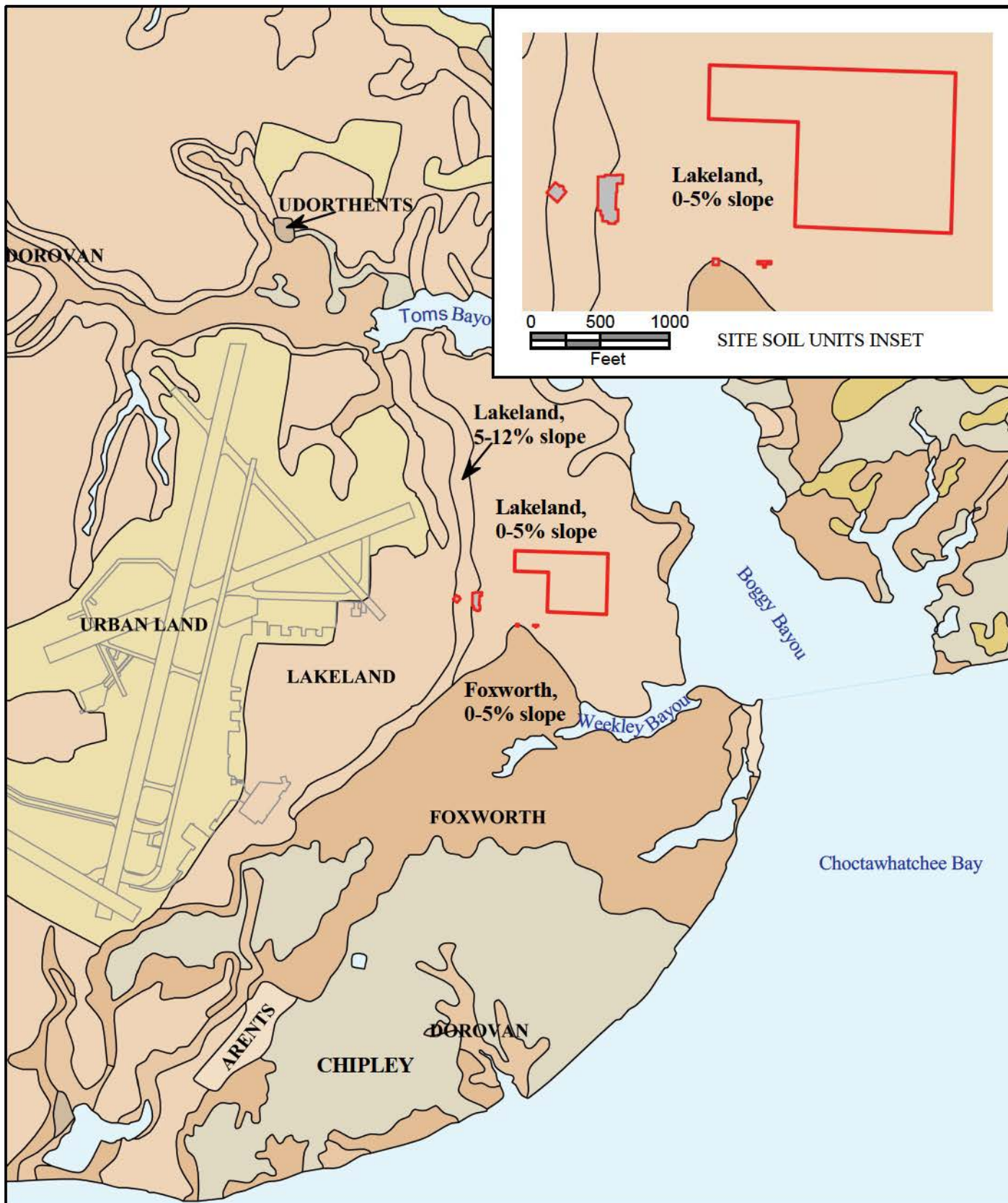
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— Eglin AFB Boundary

Proposed Construction Site

Buildings to be Demolished

Data Source: Natural Resources Conservation Service
SSURGO Database

FIGURE 3-3

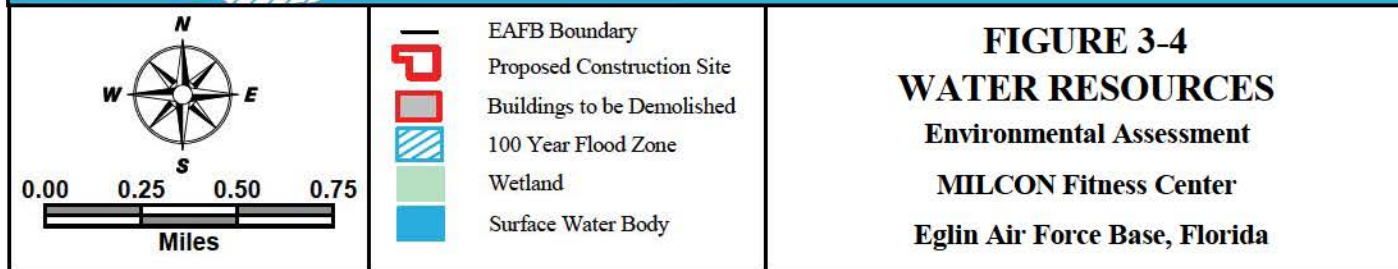
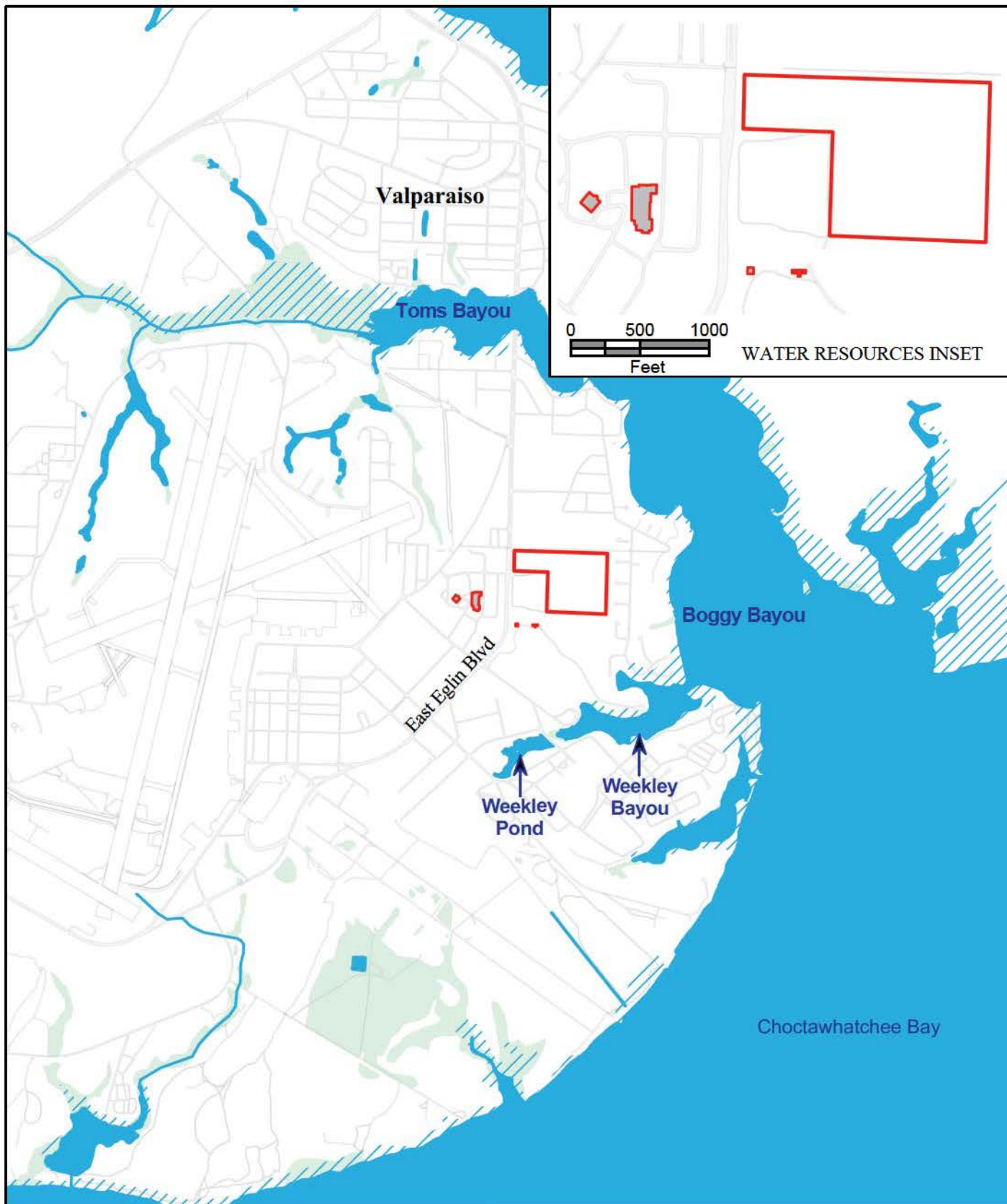
SITE SOIL UNITS

Environmental Assessment

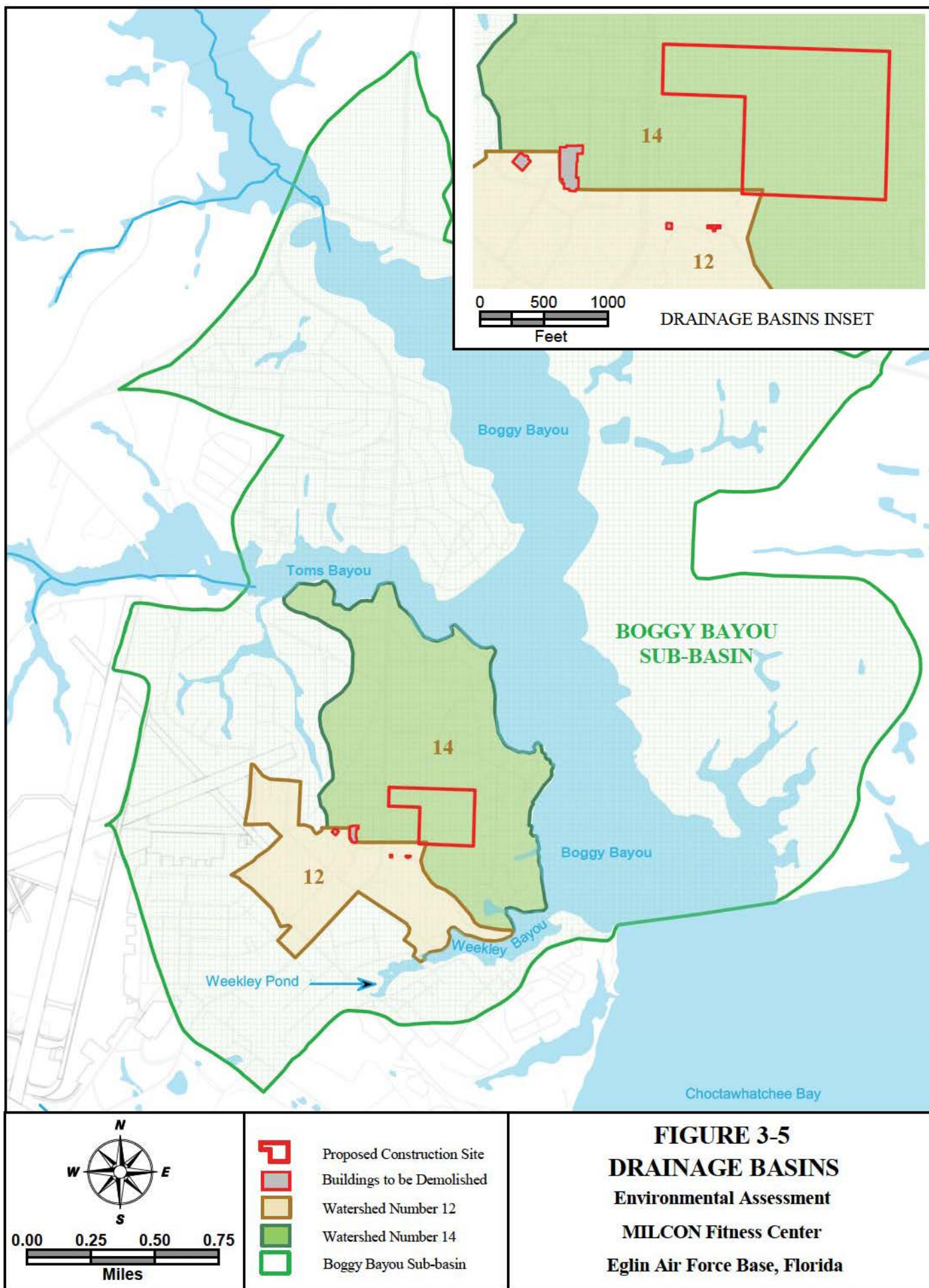
MILCON Fitness Center

Eglin Air Force Base, Florida

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**APPENDIX A
SHPO CONCURRENCE**

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FLORIDA DEPARTMENT OF STATE

Glenda E. Hood

Secretary of State

DIVISION OF HISTORICAL RESOURCES

Ms. Maria D. Rodriguez
Chief, Historic Preservation Division
501 DeLeon St., Suite 101
Eglin, AFB FL 32542-5105

February 2, 2005

Re: DHR Project File No. 2005-376 / Received by DHR: January 11, 2005
Survey of X-716 Cultural Resources Support Eglin Air Force Base, Okaloosa, Santa Rosa & Walton Counties, Florida

Dear Ms. Rodriguez:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992; *36 C.F.R., Part 800: Protection of Historic Properties*; and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the *National Register of Historic Places (NRHP)*, or otherwise of historical, architectural or archaeological value.

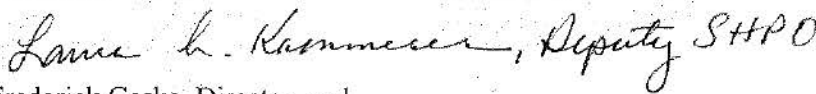
In September 2004, Prentice Thomas & Associates, Inc. (PTA) conducted an archaeological and historical survey of the X-716 project area on behalf of the U.S. Air Force. One previously recorded archaeological site was encountered within the project area during the current investigation.

The X-716-A site (8OK940) was originally interpreted as a Weeden Island camp that was ineligible for *NRHP* nomination. The current project expanded the site boundaries to at least 100m by 200m. 8OK940 is now viewed as representing a single component Weeden Island site that was likely a hamlet or village occupation. It is the opinion of PTA that 8OK940 is potentially eligible for listing in the *NRHP*, because the site has the potential to yield significant data regarding phase definition of Weeden Island through a study of the ceramic assemblage, as well as contributing to an understanding of the overall Weeden Island settlement system around Boggy Bayou. PTA recommends further testing of 8OK940 to determine eligibility for listing in the *NRHP*.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

If you have any questions concerning our comments, please contact Claire Nanfro, Historic Sites Specialist, by phone at (850) 245-6333, or by electronic mail at cnanfro@dos.state.fl.us. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

for  Deputy SHPO
Frederick Gaske, Director, and
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research
(850) 245-6444 • FAX: 245-6436

☒ Historic Preservation
(850) 245-6333 • FAX: 245-6437

☐ Historical Museums
(850) 245-6400 • FAX: 245-6433

☐ Southeast Regional Office
(954) 467-4990 • FAX: 467-4991

☐ Northeast Regional Office
(904) 825-5045 • FAX: 825-5044

☐ Central Florida Regional Office
(813) 272-3843 • FAX: 272-2340

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APPENDIX B
INTERAGENCY COORDINATION

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AGENCY RECIPIENT LIST

Florida State Clearinghouse

Northwest Florida Water Management District

Florida Fish and Wildlife Conservation Commission

West Florida Regional Planning Council

State of Florida Historic Preservations Office

US Fish and Wildlife Service

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April 12, 2010

Ms. Lauren P. Milligan
Environmental Manager
Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Blvd, M.S. 47
Tallahassee, FL 32399-3000

RE: Draft
Environmental Assessment (EA)
MILCON Fitness Center and Fitness Training Area (RCS 07-812)
Eglin Air Force Base, Florida

Dear Ms. Milligan,

Please find enclosed twelve CDs of the Draft MILCON Fitness Center and Fitness Training Area Environmental Assessment for your review and distribution to relevant state agencies. We respectfully request comments within 60-days.

Please send agency comments to:

Brown, Burdine and Assoc
90 NW Beal Parkway, Suite A2
Fort Walton Beach, FL 32548

If you require additional information, please contact me at (850)243-0072.

Sincerely,
Brown, Burdine & Associates, LLC



Melissa A. Hoover, MS
Environmental Scientist / Project Manager

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Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

June 10, 2010

RECEIVED JUN 14 2010

Ms. Melissa A. Hoover, M.S.
Environmental Scientist/Project Manager
Brown, Burdine & Associates, LLC
90 NW Beal Parkway, Suite A-2
Fort Walton Beach, FL 32548

RE: Department of the Air Force - Draft Environmental Assessment -
MILCON Fitness Center and Fitness Training Area, Eglin Air Force Base
Okaloosa County, Florida.
SAI # FL201004135203C

Dear Ms. Hoover:

The Florida State Clearinghouse has coordinated a review of the Draft Environmental Assessment (EA) under the following authorities: Presidential Executive Order 12372; Section 403.061(40), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Northwest Florida Water Management District (NFWFMD) states that nearby water resources in Choctawhatchee Bay have been adversely affected by stormwater runoff and nonpoint source pollution associated with intensive development and impervious surfaces within the contributing watershed. To minimize additional impacts, it is recommended that stormwater management best management practices (BMPs) and other low impact development practices be employed in the design and construction of the proposed facility. Examples of stormwater BMPs include minimization of impervious surface area, such as through the use of pervious parking areas, and the design of outdoor recreation areas to serve as temporary stormwater detention areas. A stormwater management system with such features could be designed to enhance functional and aesthetic aspects of a fitness center and outdoor recreation area. If there are any questions, please do not hesitate to contact Mr. Paul Thorpe at (850) 539-5999.

The Florida Department of Environmental Protection also advises the U.S. Air Force to coordinate with the NFWFMD's Crestview Field Office, phone (850) 683-5044, for further

Ms. Melissa A. Hoover
June 10, 2010
Page 2 of 2

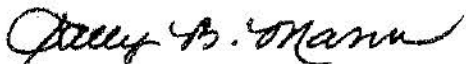
information on the state's stormwater management and Environmental Resource Permitting requirements.

The West Florida Regional Planning Council (WFRPC) recommends that development be constructed in a manner that does not structurally impair or reduce the flow of any of the on-site waterbodies. The WFRPC recommends that the development maintain the use of BMPs such as erosion control devices, reduced impervious surfaces, and landscaping with native vegetation. Staff also recommends the establishment of 30-ft. buffers around all wetlands, waterbodies and important wildlife habitats. Please see the enclosed WFRPC memorandum for more information.

Based on the information contained in the Draft EA and the enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the project's continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activity's compliance with FCMP authorities, including federal and state monitoring of the activity to ensure its continued conformance, and the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process.

Thank you for the opportunity to review the Draft EA. Should you have any questions regarding this letter, please contact Ms. Jillian Schatzman at (850) 245-2187.

Yours sincerely,



Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/js
Enclosures

cc: Duncan Cairns, NFWFMD
John Gallagher, WFRPC



Florida

Department of Environmental Protection

"More Protection, Less Process"



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Project Information

Project:	FL201004135203C
Comments Due:	05/21/2010
Letter Due:	06/12/2010
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT - MILCON FITNESS CENTER AND FITNESS TRAINING AREA ON EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.
Keywords:	USAF - DEA, MILCON FITNESS CENTER/TRAINING AREA ON EGLIN AFB - OKALOOSA CO.
CFDA #:	12.200

Agency Comments:

WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL

The WFRPC recommends that development be constructed in a manner that does not structurally impair or reduce the flow of any on-site waterbodies. Construction best management practices should be maintained at all times and include erosion control devices, reduced impervious surfaces and landscaping with native vegetation. Staff also recommends the establishment of 30-ft. buffers around all wetlands, waterbodies and important wildlife habitats. Please see the enclosed WFRPC memorandum for more information.

COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

NO COMMENT BY PAUL SCHARINE ON 5/19/10.

STATE - FLORIDA DEPARTMENT OF STATE

No Comment/Consistent

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION

No Comment

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The DEP advises the U.S. Air Force to coordinate with the NFWFMD's Crestview Field Office, phone (850) 683-5044, for further information on the state's stormwater management and Environmental Resource Permitting requirements.

NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

The NFWFMD advises that nearby water resources in Choctawhatchee Bay have been adversely affected by stormwater runoff and nonpoint source pollution associated with intensive development and impervious surfaces within the contributing watershed. To minimize additional impacts, it is recommended that stormwater management best management practices (BMPs) and other low impact development practices be employed in the design and construction of the proposed facility. Examples of stormwater BMPs include minimization of impervious surface area, such as through the use of pervious parking areas, and the design of outdoor recreation areas to serve as temporary stormwater detention areas. A stormwater management system with such features could be designed to enhance functional and aesthetic aspects of a fitness center and outdoor recreation area. If there are any questions, please do not hesitate to contact Mr. Paul Thorpe at (850) 539-5999.

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

MEMORANDUM

TO: Duncan Cairns, Chief, Bureau of Environmental Management and Planning
FROM: Paul Thorpe, Director, Resource Planning Section
DATE: May 19, 2010
SUBJECT: Draft Environmental Assessment, MILCON Fitness Center and Fitness Training Area on Eglin AFB – SAI # FL201004135203C

The project provides for construction of a fitness center covering 128,236 square feet, with a 20-acre outdoor fitness training area and associated parking facilities. Demolition of several existing buildings is also part of the proposed action.

Nearby water resources in Choctawhatchee Bay have been adversely affected by stormwater runoff and nonpoint source pollution associated with intensive development and impervious surfaces within the contributing watershed. To minimize additional impacts, it is recommended that stormwater management best management practices (BMPs) and other low impact development practices be employed in the design and construction of the proposed facility. Examples of stormwater BMPs include minimization of impervious surface area, such as through the use of pervious parking areas, and the design of outdoor recreation areas to serve as temporary stormwater detention areas. A stormwater management system with such features could be designed to enhance functional and aesthetic aspects of a fitness center and outdoor recreation area.

District staff appreciate the opportunity to review this Draft Environmental Assessment. If there are any questions, please do not hesitate to contact Paul Thorpe at (850) 539-5999.



Cindy Frakes, Chairman
JD Smith, Vice-Chairman

Terry A. Joseph, Executive Director

MEMORANDUM

To: Lauren Milligan, Environmental Manager- Florida State Clearinghouse Florida
Department of Environmental Protection 5900 Commonwealth Boulevard
M.S. 47, Tallahassee, FL 32399

Through: John Gallagher, Comprehensive Planning Director

From: Mary F. Gutierrez, Environmental Planner

Date: Thursday, April 22, 2010

Subject: MILCON Fitness Center and Fitness Training area on Eglin AFB, Okaloosa County,
Florida FL201004135203C, RPC#OK-119-4-19-10

Project: The project is for the construction of a Mega 7 category fitness facility of 128,236 square feet to accommodate the current base population of approximately 12,219 personnel. The new facility would also provide approximately 20-acres for an outdoor Fitness Training Area. Demolition of existing facilities (Buildings 719, 720, 810, and 843) is also included in this proposal.

Clearing and grubbing activities of the fitness center and fitness training area would result in an estimated 1,750 to 3,150 tons of land clearing debris. In addition, the construction of the fitness center would add an estimated 128,236 square feet and required parking would add 27,090 square feet or a total of 3.56 acres of impervious surface.

Based on the information provided, the Council would like to make the following recommendations. Please note that the recommendations below are based on the Strategic Regional Policy Plan, established under Chapter 93-206, Laws of Florida. Responses to these recommendations are not required.

Priority 1 - Protection of the Region's Surface Water Resources:

Policy 1.1: Prohibit development activities that structurally impair or reduce the flow of the Region's rivers, creeks, branches, streams, (tributaries and surface waters) and standing waters such as ponds and lakes.

Policy 1.4: Protect all surface waters from pollution and degradation, with particular emphasis on SWIM priority water bodies, Class I and II waters, Outstanding Florida Waters and State Aquatic Preserves.

Policy 1.5: Protect wetlands from pollution and unnatural degradation due to development.

Recommendation 1: Development shall be constructed in a manner that does not structurally impair or reduce the flow of any on-site rivers, creeks, branches, streams, tributaries and surface waters at any time.

Recommendation 2: Construction buffers shall be maintained at all time and may include, but is not limited to staked hay bales, staked filter cloth, and planting of native species.

Recommendation 3: All landscaping should consist of native species known to that particular area.

Recommendation 4: Consider building the facility to meet LEED or FGBC green building standards.

Priority 2 – Protection of the Region’s Ground Water Resources:

Policy 1.3: Allow the use of reclaimed wastewater for irrigation.

Policy 1.5: Investigate the development and use of alternative sources of water in areas where currently used sources are steadily declining and develop and implement strategies for use of alternative water supplies.

Policy 1.9: Prevent all development activities that would structurally impair the function of high volume recharge areas, or reduce the availability and flow of good quality water to recharge areas.

Recommendation 1: Plant native species in all areas and avoid the use of fertilizers, pesticides, and herbicides.

Recommendation 2: Leave as much native species in place during construction as opposed to clear cutting/land clearing thereby reducing estimated tonnage of land clearing debris and the need to replant once construction is completed.

Recommendation 3: Use reclaimed water and/or rainwater for irrigation as well as for bathroom facilities.

Recommendation 4: Create pervious surfaces as opposed to impervious surfaces through the use of pavers, grass, or other means thereby reducing the increase in the impervious area associated with this project.

Priority 4 - Protection of Natural Systems:

Policy 1.2: Require land development applications to establish buffer zones around estuarine systems, wetlands, and unique uplands that protect these areas from degradation by adjacent land uses, where feasible.

Recommendation 1: Maintain, at a minimum, 30-foot buffers around all wetland, flood plains, bayous/surface water, estuarine systems, unique uplands, and other important wildlife habitats.

Priority 5 - Protection of Endangered, Threatened, and Rare Species:

Goal 1: Protect native species in the Region that are on the Florida Game and Fresh Water Fish Commission, Florida Wildlife Service, Florida Wildlife Commission list of endangered, threatened, and rare species of Florida.

Recommendation 1: Avoid secondary and cumulative impacts to areas known as habitat for endangered, threatened and rare species.

Priority 6 - Land Management and Use

Policy 1.2: Conserve and protect the natural functions of soils, wildlife habitat, floral habitat and wetlands.

Policy 1.4: Protect state or federally owned ecologically sensitive lands from land uses that would impair or destroy the important habitats and plant and animal species occurring on those lands.

COUNTY: OKALOOSA
SCH- USAF- NEPA- EG

DATE: 4/13/2010
COMMENTS DUE DATE: 5/21/2010
CLEARANCE DUE DATE: 6/12/2010
SAI#: FL201004135203C

MESSAGE: 2010-01918

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	NORTHWEST FLORIDA WMD		
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
X STATE			
TRANSPORTATION			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT - MILCON FITNESS CENTER AND FITNESS TRAINING AREA ON EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)
3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- | | |
|--|---|
| <input checked="" type="checkbox"/> No Comment | <input checked="" type="checkbox"/> No Comment/Consistent |
| <input type="checkbox"/> Comment Attached | <input type="checkbox"/> Consistent/Comments Attached |
| <input type="checkbox"/> Not Applicable | <input type="checkbox"/> Inconsistent/Comments Attached |
| | <input type="checkbox"/> Not Applicable |

From:

Division/Bureau: Historical Resources/Historic Preservation

Reviewer: Samantha Earnest

Laura A. Kammeyer

Date: 5.20.10

Deputy
SHPO

5.20.2010

RECEIVED
BUREAU OF
HISTORIC PRESERVATION
2010 APR 14 P 1:06

RECEIVED

MAY 24 2010

DEP Office of
Intergov't Programs

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**APPENDIX C
COASTAL ZONE MANAGEMENT ACT CONSISTENCY
DETERMINATION**

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APPENDIX C

CZMA CONSISTENCY STATEMENT

This Consistency Statement will examine the potential environmental consequences of the Proposed Action and ascertain the extent to which the consequences of the Proposed Action are consistent with the objectives of Florida Coastal Management Program.

Statute	Consistency	Scope
Chapter 161 <i>Beach and Shore Preservation</i>	The Proposed Action would not affect beach and shore management, specifically as it pertains to: <ul style="list-style-type: none"> • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program. 	Authorizes the Bureau of Beaches and Coastal Systems within DEP to regulate construction on or seaward of the States' beaches.
Chapter 163, Part II <i>Growth Policy; County and Municipal Planning; Land Development, Regulation</i>	The Proposed Action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 <i>State and Regional Planning</i>	The Proposed Action, which occurs on federal property, would not affect state plans for water use, off-base land development or transportation.	Details state-level planning efforts. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 <i>Emergency Management</i>	The Proposed Action would not affect the state's vulnerability to natural disasters. The Proposed Action would not affect emergency response and evacuation procedures.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.

Statute	Consistency	Scope
Chapter 253 <i>State Lands</i>	All activities would occur on federal property; therefore the Proposed Action would not affect state or public lands.	Addresses the state's administration of public lands and property of this state, and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 <i>State Parks and Preserves</i>	The Proposed Action would not affect state parks, recreational areas, or aquatic preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 <i>Land Acquisition for Conservation or Recreation</i>	The Proposed Action would not affect tourism and/or outdoor recreation. The Proposed Action would increase the availability of outdoor recreation facilities to active duty military personnel and their dependents.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.
Chapter 260 <i>Florida Greenways and Trails Act</i>	The Proposed Action would not include the acquisition of land and would not affect the Greenways and Trails Program.	Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system.
Chapter 267 <i>Historical Resources</i>	The Proposed Action is not anticipated to impact cultural resources. However, in the event that resources are inadvertently discovered during construction, 96 CEG/CEVSH would be notified immediately and further ground-disturbing activities would cease in that area. Identified resources would be managed in compliance with federal law and Air Force regulations. As part of standard review, the SHPO will be provided a copy of the EA.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 <i>Commercial Development and Capital Improvements</i>	The Proposed Action would not affect future business opportunities on state lands or the promotion of tourism in the region.	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.
Chapter 334 <i>Transportation Administration</i>	The Proposed Action would not affect the state's transportation administration.	Addresses the state's policy concerning transportation administration.
Chapter 339 <i>Transportation Finance and Planning</i>	The Proposed Action would not affect the state's transportation finance and planning.	Addresses the finance and planning needs of the state's transportation system.

Statute	Consistency	Scope
Chapter 370 <i>Saltwater Fisheries</i>	The Proposed Action would not affect waters or habitat classified as Essential Fish Habitat by the National Marine Fisheries Service. No impact on saltwater fisheries is anticipated.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 <i>Wildlife</i>	Impacts to biological resources would be minimal. Some vegetation would be removed and temporary intermittent construction noise may aggravate wildlife. However, many species would either move to another suitable location or remain within the area and utilize remaining unaffected habitat. Avoidance and mitigation measures for the potential protected species are also included in the assessment.	Addresses the management of the wildlife resources of the state.
Chapter 373 Water Resources	<p>Eglin AFB would coordinate all applicable permits in accordance with the Florida Administrative Code (FAC).</p> <p>The Proposed Action would increase the potential for impact from the increased rate and volume of stormwater runoff, due to an increase in impervious surface area. To minimize the impact to water resources, Low Impact Development (LID) techniques would be incorporated into building, site, and landscape design plans; and erosion and sediment control Best Management Practices (BMPs) would be utilized during active construction in accordance with United Facilities Criteria (UFC) 3-210-1 and FAC 62-621, respectively.</p> <p>The Proposed Action would require coverage under the generic permit for stormwater discharge from construction activities that disturb one or more acres of land (FAC 62-621).</p> <p>The Proposed Action may require the proponent to file a NOI to Use the General Permit for Construction of Water Main Extensions for Public Water Supply under FAC 62-555, Permitting, Construction, Operation, and Maintenance of Public Water Systems.</p> <p>The Proposed Action may require the proponent should complete a Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System under FAC 62-604, Collection System and Transmission Facilities.</p> <p>The Proposed Action would be consistent with Florida's statutes and regulations regarding water resources of the State.</p>	Addresses the state's policy concerning water resources.

Statute	Consistency	Scope
Chapter 375 <i>Outdoor Recreation and Conservation Lands</i>	The Proposed Action would not affect opportunities for recreation on state lands.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs.
Chapter 376 <i>Pollutant Discharge Prevention and Removal</i>	<p>Any construction area larger than one acre would require a National Pollution Discharge Elimination System (NPDES) General Permit under 40 Code of Federal Regulations (CFR) 122.26(b) (14) (x). A stormwater pollution prevention plan would also be required under the NPDES permit before beginning construction activities. No impacts are anticipated from Environmental Restoration or Military Munitions Response Program sites, as none are documented in the Proposed Action Area. However, should any unusual odor, soil, or groundwater coloring be encountered during roadway construction activities in any area, construction would cease and the Eglin Environmental Restoration (96 CEG/CEVR) branch would be contacted immediately.</p> <p>Asbestos debris may be generated as a result of proposed building demolition activities. Proper disposal of asbestos wastes would be conducted as directed by the National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR 61.40–157]. Contractor personnel would be trained and certified.</p> <p>Lead-based paint debris may be generated as a result of proposed building demolition or renovation activities. Proper disposal of lead containing wastes would also be conducted in accordance with state and federal regulations, including the Toxic Substances Control Act of 1976 (TSCA) and Occupational Safety and Health Administration (OSHA).</p> <p>Therefore, the Proposed Action would be consistent with Florida’s statutes and regulations regarding the transfer, storage, or transportation of pollutants.</p>	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.

Statute	Consistency	Scope
Chapter 377 <i>Energy Resources</i>	<p>Coordination with all utility providers prior to demolition or construction would minimize any potential impacts to existing utility infrastructure. Areas with existing utilities would provide tie-ins for new lines, and new utility infrastructure would be coordinated with utility providers.</p> <p>There would be no adverse impact to utility infrastructure associated with the implementation of the Proposed Action.</p>	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 380 <i>Land and Water Management</i>	The Proposed Action would not affect development of state lands with regional (i.e. more than one county) impacts. The Proposed Action would not include changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, design, or construction.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 <i>Public Health, General Provisions</i>	The Proposed Action would not affect the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 <i>Mosquito Control</i>	The Proposed Action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 <i>Environmental Control</i>	<p>FDOT would coordinate all applicable permits in accordance with the FAC. The Proposed Action would require an Environmental Resource Permit from the NFWFMD.</p> <p>The individual pollutant emissions from the Proposed Action will not exceed 10 percent of the total of Okaloosa County emissions for each of the six criteria pollutants (ozone, lead, nitrogen oxides, sulfur oxides, carbon monoxide, and particulate matter). No significant impacts to air quality were identified through analysis. However, in accordance with Rule 62-296.320(4)(c), reasonable efforts will be taken to reduce fugitive particulate (dust) emissions during any ground-disturbing activities in accordance with FAC 62-296.</p> <p>Coordination of contractors with all local county and private landfill operators prior to construction would minimize any potential impacts associated with disposal of demolition materials or construction debris; when possible eligible materials will be recycled.</p>	Establishes public policy concerning environmental control in the state.

Statute	Consistency	Scope
Chapter 403 <i>Environmental Control</i> (Cont'd)	The Proposed Action would be consistent with Florida's statutes and regulations regarding water quality, air quality, pollution control, solid waste management, and other environmental control efforts.	
Chapter 582 <i>Soil and Water Conservation</i>	Major impacts to soils and sediments are not anticipated. Some soil disturbance would occur from construction; however, BMPs will be implemented to minimize erosion and stormwater runoff and to regulate sediment control. The Proposed Action would not affect soil and water conservation efforts.	Provides for the control and prevention of soil erosion.

CONCLUSION

The Air Force finds that the conceptual Proposed Action and No Action alternative plans presented in the EA are consistent with Florida's Coastal Management Program to the maximum extent practicable.

**APPENDIX D
PUBLIC NOTICE**

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PUBLIC NOTIFICATION

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of a Draft Environmental Assessment and Finding of No Significant Impact for RCS 07-812, "MILCON Fitness Training Center and Training Area" for public review and comment.

The Proposed Action would consolidate four existing health training facilities including Building 810, the current fitness center; Bldg. 843, the Health and Wellness Center (HAWC); and Bldgs. 719 and 720, the Men's and Women's Field Houses. The new facility would also provide adequate room for an outdoor Fitness Training Area. Consolidation of the facilities would combine management and staffing to allow for more economical management and extended hours of operation of the fitness training facility.

Your comments on this Draft EA are requested. Letters and other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided, including private addresses, will be used only to identify your desire to make a statement during the public comment period or to compile a mailing list to fulfill requests for copies of the Final EA or associated documents. However, only the names and respective comments of respondent individuals will be disclosed: personal home addresses and phone numbers will not be published in the Final EA.

The Draft Environmental Assessment and Draft Finding of No Significant Impact are available on the web at www.eglin.af.mil/environmentaldocuments.asp from April 14 until April 29, 2010. Each of the libraries in Niceville and Fort Walton Beach has computers available to the general public and librarians who can provide assistance linking to the document. Hard copies of the document may be available for a limited time by contacting: Mike Spaits, 96th Air Base Wing Environmental Public Affairs, 501 De Leon St., Ste. 101, Eglin AFB, Fla., 32542-5133 or email: spaitsm@eglin.af.mil. Tel: (850) 882-2836; Fax: (850) 882-3761.

For more information or to comment on the Proposed Action, contact:

Mike Spaits, Environmental Public Affairs, 501 De Leon St., Ste. 101, Eglin AFB, Fla., 32542-5133 or email: spaitsm@eglin.af.mil. Tel: (850) 882-2878; Fax: (850) 882-3761

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"Where Buyers and Sellers Meet!"
Beacon

CLASSIFIEDS



PUBLIC NOTIFICATION

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of a Draft Environmental Assessment and Finding of No Significant Impact for RCS 07-812, "MILCON Fitness Training Center and Training Area" for public review and comment.

The Proposed Action would consolidate four existing health training facilities including Building 810, the current fitness center; Bldg. 843, the Health and Wellness Center (HAWC); and Bldgs. 719 and 720, the Men's and Women's Field Houses. The new facility would also provide adequate room for an outdoor Fitness Training Area. Consolidation of the facilities would combine management and staffing to allow for more economical management and extended hours of operation of the fitness training facility.

Your comments on this Draft EA are requested. Letters and other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided, including private addresses, will be used only to identify your desire to make a statement during the public comment period or to compile a mailing list to fulfill requests for copies of the Final EA or associated documents. However, only the names and respective comments of respondent individuals will be disclosed; personal home addresses and phone numbers will not be published in the Final EA.

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Autos for Sale

2005 PT Cruiser
 Touring Edition, 72,000
 miles, Great Condition.
 217-9141

Help Wanted

NEWSPAPER DELIVERY

Earn extra cash of \$45 to \$140 or more each week in your spare time! The Bay Beacon seeks a reliable independent contractor to insert, bag, and deliver newspapers Tuesday night. You must be over 21 and have a reliable vehicle, a good driving record, a Florida driver's license, and proof of current liability insurance. No collecting duties. Earnings vary according to route and work load. Stop by the Bay Beacon for an information sheet and to fill out an application. The Beacon 1181 E. John Sims Parkway, Niceville • 678-1080 (Parkway East Shopping Center across from PoFolks)

Help Wanted

EDITORIAL/ ADMINISTRATIVE ASSISTANT Beacon Newspapers

Beacon Newspapers (The Bay Beacon, The Eglin Flyer, and The Hurlburt Patriot) seeks an editorial and administrative assistant who will work in the office to help compile, write, and edit news items, assist the editor in preparing the newspapers for publication, and perform other clerical and administrative duties under the direction of the editor. Applicants must be familiar with desktop computers, able to write quickly and accurately, and possess proofreading and editing skills. Candidates must be detail-oriented, and able to adapt to a fast-paced editorial environment. Nonsmoking office. Competitive pay, commensurate with experience and aptitude. Apply at The Bay Beacon, 1181 E. John Sims Parkway, Niceville, FL 32578.

Help Wanted

REPORTER

Beacon Newspapers (The Bay Beacon, The Eglin Flyer, and The Hurlburt Patriot) has an opening for a full-time reporter. The job requires a hardworking, self-starting, organized journalist with high standards for accuracy, the ability to meet deadlines, a nose for news, and concern for readers. Benefits include IRA plan, paid holidays, and paid vacation. Applicants should have reporting experience. Apply at the Bay Beacon, 1181 E. John Sims Pkwy, Niceville. Bring copies of samples of your written work.

23 people needed to lose 5-100 pounds! Dr. recommended! Guaranteed! 1-800-214-9836 www.dkcweightloss.com

New Salon in Niceville looking for experienced stylist with clientele, booth rental or commission, busy location. 279-6502.

Help Wanted

Cook, experienced only. Must be able to work nights. Salary negotiable based on experience. Apply only 10-5, Beef O'Brady's, BWB.

REPORTER Part-Time

The Eglin Flyer and the Hurlburt Patriot base newspapers seek a freelance reporter to write human interest features and cover events on and off base. You must be available most days. We pay \$25 a story and \$5 a photo, when published. Writing experience is essential, as is access to a home computer and a digital camera. Base access essential. Some reporting and photo experience is helpful, but not required. Call Ken Books, 678-1080.

Business for Sale

Hair Salon for Sale, equipment less than 6 months old, 3 stations. Equipment and inventory included. \$11,000 stsalons@gmail.com

Pets

German Shepherd Puppies, AKC, 4 females, \$350, 9 weeks. 850-797-0775

Bichon Frise Puppy, AKC. First Shots. \$450, male. 729-0651

Services

CAD Drafter: CAD Drafting Certificate/Degree; knows Inventor/Solidworks, Advanced G, D&T, blueprint reading, 424-6871

Yard Sales

Annual Blue Pine Village yard sale. Take Hwy 20 to Range Rd .08 miles. Saturday, April 17, 7am to 1pm. Rain date April 24.

Bluewater Bay, Niceville, 4591 Hwy 20 East Suit 105 (Amplified Performance Art Center) Located in the Bluewater Fitness and Wellness Center. **GARAGE SALE/ FUNDRAISER** Saturday, April 17, 7am-2pm. Home merchandise, clothes, Sports Gear, and much more!



THE BEACON'S AT YOUR SERVICE



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LOCAL Briefs

From staff reports

DEFUNIAK SPRINGS
Corrections officer
arrested, charged
with drug possession

A state correctional officer was arrested Monday and charged with drug possession.

Justin Ryan Tankersley, 23, an officer at the Walton Correctional Institution, was charged with two counts of possession of a controlled substance after an officer found one Xanax pill and seven Valium pills in a Dodge truck, according to a DeFuniak Springs police report.

During a traffic stop, Tankersley, who was outside the car, caught the attention of the officer when he pulled his hand out of his pocket and reached inside the truck, the report said. The drugs were found when the officer searched the vehicle.

He was booked and

released from the Walton County Jail on \$5,000 bond.

Tankersley of DeFuniak Springs was in the process of being fired Tuesday, said Gretl Plessinger, a spokeswoman for the Florida Department of Corrections. He was hired in June 2007.

DEFUNIAK SPRINGS
Walton County
Tea Party hosts
rally, meeting

The Walton County Tea Party group has two events scheduled for the next week.

A "freedom rally" will be from 11 a.m. to 2 p.m. Saturday at Walton Cycles on U.S. Highway 90 West in DeFuniak Springs. The purpose of the rally is to express the group's concerns about events in Washington, D.C., and to attract new members. Mike Hill, a Republican candidate for the District 2 Florida Senate seat, will speak.

The group's regular monthly meeting will be

from 6 to 8 p.m. April 22 at the Senior Center, 312 College Ave. in DeFuniak Springs Hill again will be the guest speaker.

For more information, go to www.waltoncountypatriots.tcoinc.com.

FREEPORT
Work to cause
lane restrictions
on U.S. 331 bridge

Motorists on the Clyde B. Wells Bridge in Walton County will face lane restrictions from 8 to 11 p.m. today while crews perform routine maintenance on the span, according to the state Department of Transportation.

Drivers should use caution in the work zone.

DESTIN
Coast Guard
Auxiliary offers
boating class

The Coast Guard Auxiliary will offer an

eight-hour class on boating safety April 24 at Coast Guard Station Destin.

The course begins at 8:30 a.m. and will last most of the day.

The fee is \$45, which includes lunch with the station crew.

Reservations must be made by calling Nancy Kenaston at 581-2528.

FLOROSA
New principal
selected for
Florosa Elementary

The Okaloosa County School Board has unanimously selected Angie Vaughn as the new principal of Florosa Elementary School.

Vaughn, who has worked for the school system for 30 years, is currently an assistant principal at Pryor Middle School.

She will replace Florosa Principal Carolyn Lulue, who is retiring.

Voucher
revived i

TALLAHASSEE (AP) A constitutional proposal designed to protect religious school vouchers from other state-funded based programs from attack is being revived the Florida Legislature two years after the Supreme Court took a similar measure off the books.

House and Senate committees Tuesday approved identical versions of proposed state constitutional amendment (1399, SJR 2550) on strip party-line votes — Democrats in favor and Republicans against. One committee hearing is each chamber before votes can be taken.

The proposal would repeal a ban on taxpayer financial aid to church and other religious institutions similar provisions in most constitutions across the nation.

It would go a step further, though, by adding new provision prohibiting any other kind of be

PUBLIC NOTIFICATION

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Mike Spait, Environmental Public Affairs, 501 De Leon St., Ste. 101, Eglin AFB, Fla. 32542-5133 or email: mailto:spaitsm@eglin.af.mil Tel: (850) 882-2878; Fax: (850) 882-3761.

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1 - NO MORE THAN 1 DRINK
HOUR
3 - NO MORE THAN 3 DRINKS
NIGHT

CONTACT: 543-1686
FAX: 837-9795

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NORTHWEST FLORIDA
**Daily
News**

Published Daily
Fort Walton Beach, Florida
Distributed in Okaloosa, Santa Rosa & Walton Counties

State of Florida
County of Okaloosa

Before the undersigned authorized personally appeared _____

Marcum Wittse, who on oath says that (s)he

is Classified Advisor of the Northwest Florida Daily News, a daily
newspaper published at Fort Walton Beach, in Okaloosa County, Florida;

that the attached copy of advertisement, being a Legal 2024532

in the matter of Public Notification
RCS 07-812

Court, was published in said newspaper in the issues of _____

April 14, 2010

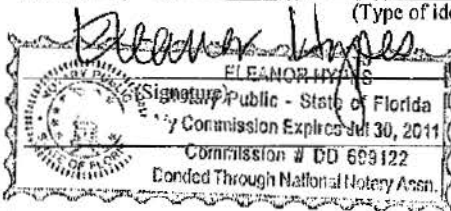
Affiant further says that the said Northwest Florida Daily News is a newspaper
published at Fort Walton Beach, in said Okaloosa County, Florida, and that the said
newspaper has heretofore been continuously published in said Okaloosa County, Florida,
each day, and has been entered as second class mail matter at the post office in Fort Walton
Beach, in said Okaloosa County, Florida, for a period of one year next preceding the first
publication of the attached copy of advertisement; and affiant further says that (s)he has
neither paid nor promised any person, firm or corporation any discount, rebate, commission
or refund for the purpose of securing this advertisement for publication in the said newspaper.

STATE OF FLORIDA
COUNTY OF OKALOOSA

Subscribed and sworn to (or affirmed) before me this 14 April 2010
(Date)

by Marcum Wittse, who is/are personally known to me or

has/have produced Personally Known as identification.
(Type of identification)



Notary Public, Commission No. _____

(Name of Notary typed, printed or stamped)

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**Response to Comments for MILCON Fitness Training Center and Training Area,
Eglin Air Force Base, Florida, Environmental Assessment**

A public notice was published in the *Northwest Florida Daily News* on Apr. 14, 2010 to disclose completion of the Draft EA, and Draft FONSI, selection of the preferred alternative, and request for comments during the 15-day pre-decisional comment period.

The 15-day comment period ended on Apr. 29th, with the comments required to this office not later than May 2nd, 2010. No comments were received during this period.

//Signed//
Mike Spaits
Public Information Specialist

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APPENDIX E

AIR DATA CALCULATIONS

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Summary	Summarizes total emissions by calendar year for FTFA041202 DEMO of Bldgs 843, 819, 820, and 810.
Combustion	Estimates emissions from non-road equipment exhaust as well as painting.
Fugitive	Estimates fine particulate emissions from earthmoving, vehicle traffic, and windblown dust
Grading	Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions
AQCR Tier Report	Summarizes total emissions for the Santa Rosa County, Florida Tier Reports for 2002, to be used to compare project to regional emissions.

		Construction Emissions from Proposed Action				
		NO _x (ton)	VOC (ton)	CO (ton)	SO ₂ (ton)	PM ₁₀ (ton)
CY2010	Construction Combustion	9.247	1.688	10.819	0.211	0.310
	Construction Fugitive Dust	0.000	0.000	0.000	0.000	47.377
	TOTAL CY2010	9.247	1.688	10.819	0.211	47.688

Since future year budgets were not readily available, actual 2001 air emissions inventories for the counties were used as an approximation of the regional inventory. Because the Proposed Action is several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set were used.

Mobile (Alabama), Pensacola-Panama City (Florida), Southern Mississippi Interstate AQCR:

Year	Point and Area Sources Combined				
	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)
2002	7,914	24,349	96,613	1,430	7,854

Source: USEPA-AirData NET Tier Report (<http://www.epa.gov/air/data/geosel.html>). Site visited on January 12, 2010.

Determination Significance (Significance Threshold = 10%) for Construction Activities

	Point and Area Sources Combined				
	NO _x (tpy)	VOC (tpy)	CO (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)
Minimum - 2002	7,914	24,349	96,613	1,430	7,854
2010 Emissions	9.247	1.688	10.819	0.211	47.688
Proposed Action %	0.1168%	0.00693%	0.01120%	0.01472%	0.6072%

Construction Combustion Emissions for CY 2010

Combustion Emissions of VOC, NO_x, SO₂, CO and PM₁₀ Due to Construction

Includes:

FTFA041202-Fitness Center	143,140 ft ²	3.29	acres
Training Area	1,393,914 ft ³	32.00	acres
Building 843 - Demo	10,536 ft ⁴	0.24	acres
Building 810 - Demo	45,355 ft ³	1.04	acres
Building 720 - Demo	2,202 ft ⁴	0.05	acres
Building 719 - Demo	2,572 ft ⁵	0.06	acres

Total Building Construction Area:	143,140 ft ²
Total Demolished Area:	60,665 ft ²
Total Cleared Area	1,393,914 ft ³
Paving:	87,119 ft ²
Total Disturbed Area:	1,684,838 ft ²
Construction Duration:	1.5 year(s)
Annual Construction Activity:	230 days/yr

Emission Factors Used for Construction Equipment

Reference: Guide to Air Quality Assessment, SMAQMD, 2004

Emission factors are taken from Table 3-2. Assumptions regarding the type and number of equipment are from Table 3-1 unless otherwise noted.

Grading

Equipment	No. Req'd. ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c	PM ₁₀ (lb/day)
Bulldozer	1	29.40	3.66	25.09	0.59	1.17
Motor Grader	1	10.22	1.76	14.98	0.20	0.28
Water Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	3	60.51	9.02	70.69	1.21	2.03

Paving

Equipment	No. Req'd. ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c	PM ₁₀ (lb/day)
Paver	1	7.93	1.37	11.62	0.16	0.22
Roller	1	5.01	0.86	7.34	0.10	0.14
Total per 10 acres of activity	2	12.94	2.23	18.96	0.26	0.36

Demolition

Equipment	No. Req'd. ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c	PM ₁₀ (lb/day)
Loader	1	7.86	1.35	11.52	0.16	0.22
Haul Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	2	28.75	4.95	42.14	0.58	0.80

Building Construction

Equipment ^d	No. Req'd. ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c	PM ₁₀ (lb/day)
Stationary						
Generator Set	1	11.83	1.47	10.09	0.24	0.47
Industrial Saw	1	17.02	2.12	14.52	0.34	0.68
Welder	1	4.48	0.56	3.83	0.09	0.18
Mobile (non-road)						
Truck	1	20.89	3.60	30.62	0.84	0.58
Forklift	1	4.57	0.79	6.70	0.18	0.13
Crane	1	8.37	1.44	12.27	0.33	0.23
Total per 10 acres of activity	6	67.16	9.98	78.03	2.02	2.27

Note: Footnotes for tables are on following page

Architectural Coatings

Equipment	No. Req'd. ^a per 10 acres	NO _x (lb/day)	VOC ^b (lb/day)	CO (lb/day)	SO ₂ ^c	PM ₁₀ (lb/day)
Air Compressor	1	6.83	0.85	5.82	0.14	0.27
Total per 10 acres of activity	1	6.83	0.85	5.82	0.14	0.27

- a) The SMAQMD 2004 guidance suggests a default equipment fleet for each activity, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.
- b) The SMAQMD 2004 reference lists emission factors for reactive organic gas (ROG). For the purposes of this worksheet ROG = VOC.
- c) The SMAQMD 2004 reference does not provide SO₂ emission factors. For this worksheet, SO₂ emissions have been estimated based on approximate fuel use rate for diesel equipment and the assumption of 500 ppm sulfur diesel fuel. For the average of the equipment fleet, the resulting SO₂ factor was found to be approximately 0.04 times the NO_x emission factor for the mobile equipment (based upon 2002 USAF IERA "Air Emissions Inventory Guidance") and 0.02 times the NO_x emission factor for all other equipment (based on AP-42, Table 3.4-1)
- d) Typical equipment fleet for building construction was not itemized in SMAQMD 2004 guidance. The equipment list above was assumed based on SMAQMD 1994 guidance.

PROJECT-SPECIFIC EMISSION FACTOR SUMMARY

Source	Equipment Multiplier*	SMAQMD Emission Factors (lb/day)				
		NO _x	VOC	CO	SO ₂ **	PM ₁₀
Grading Equipment	4	936.176	139.552	1093.675	18.724	31.407
Paving Equipment	1	2.588	0.446	3.792	0.052	0.072
Demolition Equipment	1	4.004	0.689	5.869	0.080	0.111
Building Construction	1	22.069	3.279	25.641	0.664	0.746
Air Compressor for Architectural Coating	1	2.244	0.279	1.912	0.045	0.089
Architectural Coating**			30.835			

*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project

**Emission factor is from the evaporation of solvents during painting, per "Air Quality Thresholds of Significance", SMAQMD, 1994

Example: SMAQMD Emission Factor for Grading Equipment NO_x = (Total Grading NO_x per 10 ac*((total disturbed area/43560)/10))*(Equipment Multiplier)

Summary of Input Parameters

	Total Area (ft ²)	Total Area (acres)	Total Days	
Grading:	1,684,838	38.68	14	(from "CY2010 Grading" worksheet)
Paving:	87,119	2.00	10	
Demolition:	60,665	1.39	60	
Building Construction:	143,140	3.29	230	(per the SMAQMD "Air Quality of Thresholds of Significance", 1994)
Architectural Coating	143,140	3.29	20	

NOTE: The 'Total Days' estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day, which is a factor derived from the 2005 MEANS Heavy Construction Cost Data, 19th Edition, for 'Asphaltic Concrete Pavement, Lots and Driveways - 6" stone base', which provides an estimate of square feet paved per day. There is also an estimate for 'Plain Cement Concrete Pavement', however the estimate for asphalt is used because it is more conservative. The 'Total Days' estimate for demolition is calculated by dividing the total number of acres by 0.02 acres/day, which is a factor also derived from the 2005 MEANS reference. This is calculated by averaging the demolition estimates from 'Building Demolition - Small Buildings, Concrete', assuming a height of 30 feet for a two-story building; from 'Building Footings and Foundations Demolition - 6" Thick, Plain Concrete'; and from 'Demolish, Remove Pavement and Curb - Concrete to 6" thick, rod reinforced'. Paving is double-weighted since projects typically involve more paving demolition. The 'Total Days' estimate for building construction is assumed to be 230 days, unless project-specific data is known.

Total Project Emissions by Activity (lbs)

	NO _x	VOC	CO	SO ₂	PM ₁₀
Grading Equipment	13,106.46	1,953.73	15,311.45	262.13	439.70
Paving	25.88	4.46	37.92	0.52	0.72
Demolition	240.24	41.36	352.12	4.80	6.68
Building Construction	5,075.88	754.28	5,897.43	152.65	171.56
Architectural Coatings	44.89	622.28	38.25	0.90	1.77
Total Emissions (lbs):	18,493.35	3,376.11	21,637.17	421.00	620.44

Results: Total Project Annual Emission Rates

	NO _x	VOC	CO	SO ₂	PM ₁₀
Total Project Emissions (lbs)	18,493.35	3,376.11	21,637.17	421.00	620.44
Total Project Emissions (tons)	9.25	1.69	10.82	0.21	0.31

Construction Fugitive Dust Emissions for CY 2010

Calculation of PM₁₀ Emissions Due to Site Preparation (Uncontrolled).

User Input Parameters / Assumptions

Acres graded per year:	38.68	acres/yr	(From "CY2010 Combustion" worksheet)
Grading days/yr:	13.96	days/yr	(From "CY2010 Grading worksheet")
Exposed days/yr:	90	assumed days/yr graded area is exposed	
Grading Hours/day:	8	hr/day	
Soil piles area fraction:	0.10	(assumed fraction of site area covered by soil piles)	
Soil percent silt, s:	8.5	%	(mean silt content; expected range: 0.56 to 23, AP-42 Table 13.2.2-1)
Soil percent moisture, M:	65	%	(http://www.cpc.noaa.gov/products/soilmst/w.shtml)
Annual rainfall days, p:	110	days/yr rainfall exceeds 0.01 inch/day	(AP-42 Fig 13.2.2-1)
Wind speed > 12 mph %, I:	16.7	%	Ave. of wind speed at Eglin AFB, FL (Personal Correspondence, Richard Henning, Meteorologist, GS-12, 46th WS/WST, March 19, 2008)
Fraction of TSP, J:	0.5	per California Environmental Quality Act (CEQA) Air Quality Handbook, SCAQMD, 1993, p. A9-99	
Mean vehicle speed, S:	5	mi/hr	(On-site)
Dozer path width:	8	ft	
Qty construction vehicles:	4.64	vehicles	(From "CY2010 Grading worksheet")
On-site VMT/vehicle/day:	5	mi/veh/day	(Excluding bulldozer VMT during grading)
PM ₁₀ Adjustment Factor k	1.5	lb/VMT	(AP-42 Table 13.2.2-2 12/03 for PM ₁₀ for unpaved roads)
PM ₁₀ Adjustment Factor a	0.9	(dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM ₁₀ for unpaved roads)
PM ₁₀ Adjustment Factor b	0.45	(dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM ₁₀ for unpaved roads)
Mean Vehicle Weight W	40	tons	assumed for aggregate trucks

TSP - Total Suspended Particulate

VMT - Vehicle Miles Traveled

Emissions Due to Soil Disturbance Activities

Operation Parameters (Calculated from User Inputs)

Grading duration per acre	2.9 hr/acre	
Bulldozer mileage per acre	1 VMT/acre	(Miles traveled by bulldozer during grading)
Construction VMT per day	23 VMT/day	
Construction VMT per acre	8.4 VMT/acre	(Travel on unpaved surfaces within site)

Equations Used (Corrected for PM10)

Operation	Empirical Equation	Units	AP-42 Section (5th Edition)
Bulldozing	$0.75(s^{1.5})/(M^{1.4})$	lbs/hr	Table 11.9-1, Overburden
Grading	$(0.60)(0.051)s^{2.0}$	lbs/VMT	Table 11.9-1,
Vehicle Traffic (unpaved roads)	$[(k(s/12)^a (W/3)^b)] [(365-P)/365]$	lbs/VMT	Section 13.2.2

Source: Compilation of Air Pollutant Emission Factors, Vol. I, USEPA AP-42, Section 11.9 dated 10/98 and Section 13.2 dated 12/03

Calculation of PM₁₀ Emission Factors for Each Operation

Operation	Emission Factor (mass/ unit)	Operation Parameter	Emission Factor (lbs/ acre)
Bulldozing	0.05 lbs/hr	2.9 hr/acre	0.10 lbs/acre
Grading	0.77 lbs/VMT	1 VMT/acre	0.80 lbs/acre
Vehicle Traffic (unpaved roads)	2.46 lbs/VMT	8.4 VMT/acre	20.70 lbs/acre

Emissions Due to Wind Erosion of Soil Piles and Exposed Graded Surface

Reference: California Environmental Quality Act (CEQA) Air Quality Handbook, SCAQMD, 1993.

Soil Piles EF = $1.7(s/1.5)[(365 - p)/235](I/15)(J) = (s)(365 - p)(I)(J)/(3110.2941)$, p. A9-99.

Soil Piles EF = 5.8 lbs/day/acre covered by soil piles

Consider soil piles area fraction so that EF applies to graded area

Soil piles area fraction: 0.10 (Fraction of site area covered by soil piles)

Soil Piles EF = 0.58 lbs/day/acres graded

Graded Surface EF = 26.4 lbs/day/acre (recommended in CEQA Manual, p. A9-93).

Calculation of Annual PM₁₀ Emissions

Source	Emission Factor	Graded Acres/yr	Exposed days/yr	Emissions lbs/yr	Emissions tons/yr
Bulldozing	0.10 lbs/acre	38.68	NA	4	0.002
Grading	0.80 lbs/acre	38.68	NA	31	0.015
Vehicle Traffic	20.70 lbs/acre	38.68	NA	801	0.400
Erosion of Soil Piles	0.58 lbs/acre/day	38.68	90	2,019	1.010
Erosion of Graded Surface	26.40 lbs/acre/day	38.68	90	91,900	45.950
TOTAL				94,755	47.38

Soil Disturbance EF: 21.60 lbs/acre

Wind Erosion EF: 26.98 lbs/acre/day

Back calculate to get EF: 175.44 lbs/acre/grading day

Construction (Grading) Schedule for CY 2010

Estimate of time required to grade a specified area.

Input Parameters

Construction area: 38.68 acres/yr (from "CY2010 Combustion" Worksheet)
 Qty Equipment: 4.64 (calculated based on 3 pieces of equipment for every 25 acres)

Assumptions.

Terrain is mostly flat.
 An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.
 200 hp bulldozers are used for site clearing.
 300 hp bulldozers are used for stripping, excavation, and backfill.
 Vibratory drum rollers are used for compacting.
 Stripping, Excavation, Backfill and Compaction require an average of two passes each.
 Excavation and Backfill are assumed to involve only half of the site.

Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day)	equip-days per acre	Acres/yr (project- specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	38.68	4.83
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	38.68	18.91
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	19.34	19.50
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	19.34	8.00
2315 310 5020	Compaction	Vibrating roller, 6 " lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	38.68	13.57
TOTAL								64.81

Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 64.81
 Qty Equipment: 4.64
 Grading days/yr: 13.96

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